



**ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT FACT SHEET –FINAL**

General Permit AKG320000 - Statewide Oil and Gas Pipelines

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Wastewater Discharge Authorization Program

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Issuance of an Alaska Pollutant Discharge Elimination System (APDES) general permit to:

Statewide Oil and Gas Pipelines

The Alaska Department of Environmental Conservation (DEC or Department) is issuing APDES general permit AKG320000 – Statewide Oil and Gas Pipeline (Pipeline GP or Permit). The Pipeline GP authorizes and sets conditions on the discharge of pollutants from construction, operation, and maintenance activities for significant oil and gas pipelines to waters of the United States or disposed to lands of the State. In order to ensure protection of water quality and human health, the Pipeline GP places limits on the types and amount of pollutants that can be discharged or disposed from these activities and outlines best management practice requirements.

This fact sheet explains the nature of potential discharges to state waters or disposed to land from construction and operations and maintenance associated with oil and gas pipelines and explains the development of the permit including:

- a description of the industry,
- a listing of effluent limits, monitoring requirements, and other conditions, and
- technical material supporting the conditions in the permit.

Appeals Process

The Department has both an informal review process and a formal administrative appeal process for final APDES permit decisions. An informal review request must be delivered within 15 days after receiving the Department's decision to the Director of Water at the following address:

Director, Division of Water
Alaska Department of Environmental Conservation
410 Willoughby Street, Suite 303
Juneau AK, 99811-1800

Interested persons can review 18 AAC 15.185 for the procedures and substantive requirements regarding a request for an informal Department review. For information regarding informal reviews of Department decisions see <http://www.dec.state.ak.us/commish/InformalReviews.htm>. An adjudicatory hearing request must be delivered to the Commissioner of the Department within 30 days of the permit decision or a decision issued under the informal review process. An adjudicatory hearing will be conducted by an administrative law judge in the Office of Administrative Hearings within the Department of Administration. A written request for an adjudicatory hearing shall be delivered to the Commissioner at the following address:

Commissioner
Alaska Department of Environmental Conservation
410 Willoughby Street, Suite 303
Juneau AK, 99811-1800

Interested persons can review 18 AAC 15.200 for the procedures and substantive requirements regarding a request for an adjudicatory hearing. For information regarding appeals of Department decisions see <http://www.dec.state.ak.us/commish/ReviewGuidance.htm>.

Documents are Available

The permit, fact sheet, and related documents can be obtained by visiting or contacting DEC between 8:00 a.m. and 4:30 p.m. Monday through Friday at the addresses below. The permit, fact sheet, and other information are also located on the Department's Wastewater Discharge Authorization Program website: <http://www.dec.state.ak.us/water/wwdp/index.htm>.

Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 555 Cordova Street, Anchorage, AK 99501 (907) 269-6285	Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 410 Willoughby Avenue, Suite 310, Juneau, AK 99801 (907) 465-5180
Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 610 University Avenue Fairbanks, AK 99709-3643 (907) 451-2183	Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 43335 Kalifornsky Beach Rd. - Suite 11 Soldotna, AK 99669 (907) 262-5210

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1.0 INTRODUCTION

1.1 Legal Basis

The Alaska Department of Environmental Conservation (DEC or Department) developed general permit AKG320000 – Statewide Oil and Gas Pipeline (Pipeline GP or Permit) to authorize discharges to fresh waters and disposal to land resulting from the construction, operation, and maintenance of significant oil and gas pipelines. The intent of issuing the general permit is to provide a single permit to the oil and gas industry to help streamline the permitting of potential new large-scale gas pipelines as well as provide continued permit coverage for existing oil and gas pipelines. The over-arching objectives require permit development that encompasses the Department’s authority provided in statute and multiple regulations.

Per Alaska Statutes (AS), Chapter 46, Title 3, Section 100(a) (AS 46.03.100(a)), “A person may not construct, modify, or operate a treatment works or dispose of liquid waste in the waters or onto the land of the State without prior authorization from the Department.” Per AS 46.03.110(d), the Commissioner may provide, as a term of a general permit, that a person intending to dispose (or discharge) wastewater under the general permit shall first obtain specific authorization from the Department. The following section discusses the regulatory basis for developing the Permit and covers both the discharge of wastewater to freshwater (Waters of the U.S.) and the disposal of wastewater into or onto land.

1.2 Wastewater Discharges to Waters of the United States in Alaska

Section 301(a) of the Clean Water Act (CWA) and Title 18 of the Alaska Administrative Code (AAC), Chapter 83, Section 15 (18 AAC 83.015) provide that the discharge of pollutants to waters of the United States (U.S.) located in Alaska is unlawful except in accordance with an Alaska Pollutant Discharge Elimination System (APDES) permit. Often the discharge of pollutants is regulated through an individual APDES permit. However, 18 AAC 83.205 authorizes the issuance of a general APDES permit to categories of discharges when a number of point sources are:

- located within the same geographic area and warrant similar pollution control measures;
- involve the same or substantially similar types of operations;
- discharge the same types of wastes;
- require the same effluent limits or operating conditions;
- require the same or similar monitoring requirements; and
- in the opinion of the Department, are more appropriately controlled under a general permit than under individual permits.

Per 18 AAC 83.210(a), a general permit is to be administered according to the individual permit regulations in 18 AAC 83.115 and 18 AAC 83.120. Like an individual permit, a violation of a condition contained in a general permit constitutes a violation of the CWA and subjects the Permittee of the facility with the permitted discharge to the penalties specified in AS 46.03.020(13). In accordance with 18 AAC 83.155, the Permit has a term of five years and those authorizations under the general permit will remain in force and effect via administrative extension should the Department be unable to reissue the Permit prior to its expiration date.

1.3 Wastewater Disposal into or onto Lands in Alaska

The Wastewater Discharge Authorization Program (WDAP) also authorizes disposal of domestic or non-domestic wastewater into or onto lands of the State. WDAP authorizes land disposals under the regulatory authority of 18 AAC 72 – Wastewater Disposal. Section 6.1.1 provides a detailed discussion concerning plan review requirements for the Permit. For land disposal to upland areas, it is incumbent upon the applicant to demonstrate that the upland area is not Waters of the U.S.

Per 18 AAC 72.900, the Department can issue a State general permit for a term of five years per AS 46.03.110(d). The authorization for disposal under a State general permit can be administratively extended per 18 AAC 15.110 upon a timely submittal by the applicant of an application for renewal.

1.4 Individual Permit

A Permittee authorized to discharge under a general permit may request to be excluded from coverage by applying for an individual permit. This request must be made by submitting forms prescribed by the state (e.g., Form 1 and Form 2C for APDES permits). The Department may require any entity authorized by a general permit to apply for and obtain an individual permit, or any interested person may petition the Department to take this action. Per 18 AAC 83.215, the Department may consider the issuance of an individual APDES permit when:

- The discharger is not in compliance with conditions of the general permit,
- A change has occurred in technology or practices,
- Effluent limits guidelines (ELGs) are promulgated,
- A water quality management plan is approved,
- DEC determines that the discharge is significant, or
- Total Maximum Daily Load (TMDL) has been completed.

Similarly, per 18 AAC 72.910(c), the Department will require a person with an authorization under a State general permit to obtain a State individual permit if the Department determines that:

- The permittee is not in compliance with conditions of the general permit,
- The disposal poses an adverse impact on public health or water quality,
- A change has occurred in technology or practices, or
- Drinking water systems, public health, or environment are inadequately protected.

1.5 Permit Coverage

The Permit authorizes discharges to freshwaters of the U.S. per 18 AAC 83 and disposal into or onto lands of the State per 18 AAC 72. The Permit and Fact Sheet purposefully refers to “discharges” when describing a requirement based on authority of the APDES Program and to “disposals” when based on the authority of 18 AAC 72. Similarly, DEC refers to APDES permits as those authorized consistent with 18 AAC 83 and State permits as those authorized consistent with 18 AAC 72.

The Pipeline GP will be available to significant oil and gas transport pipelines and associated facilities. A significant pipeline means a main pipeline or a pipeline that has considerably long segments between branches or serves to deliver oil or gas to a community or service. Any pipeline that is being constructed using horizontal directional drilling beneath a waterbody would

also be considered significant. In contrast, a non-significant pipeline would be associated with short segments or downstream distribution networks. Note that there are other wastewater general permits available for discharges from non-significant pipelines.

Coverage under the Pipeline GP is not available for discharges into impaired waterbodies (as listed on the CWA Section 303(d) list) if the effluent contains the pollutant that causes, or contributes to, the impairment. Nor is coverage available for discharges to designated outstanding national resource waters, Tier III waterbodies. Currently, there are no designated Tier III waterbodies in Alaska.

The Environmental Protection Agency (EPA) retains the authority to permit discharges on the Indian Reservation of Metalakatla and in the Denali National Park and Preserve. Accordingly, if a significant pipeline is constructed within Denali Park boundaries, discharges and disposal would be regulated by EPA for that portion of the project. The Pipeline GP would still be available for discharges or disposals outside the park boundary.

Permit coverage will include discharges or disposals associated with pipeline construction and operation and maintenance. Accordingly, the Pipeline GP includes the authorization of multiple wastewater discharges or disposals so that permittees of significant pipelines can obtain authorization under a singular general permit rather than authorizations under multiple general permits. In addition, the Pipeline GP provides the ability for multiple entities to be covered by one permit rather than multiple individual permits. The following wastewater discharges and disposals are authorized under the Permit:

<u>DISCHARGE/DISPOSAL NUMBER</u>	<u>DISCHARGES DESCRIPTION</u>
001 (Discharge Only)	Drilling Fluids and Drill Cuttings
002 (Discharge Only)	Domestic Wastewater
003	Gravel Pit Dewatering
004	Excavation Dewatering
005	Hydrostatic Test Water
006 (Discharge Only)	Storm Water
007 (Discharge Only)	Mobile Spill Response

1.6 Referenced Permits

The Pipeline GP includes discharge and disposal categories that may be common to other existing individual or general permits issued by WDAP that serve other industrial sectors. So not to be inconsistent with these other related APDES and State permits, DEC has conducted a compare and contrast of permit requirements for each permit. The following table provides a list of individual and general permits that may be referenced in this fact sheet by permit number or paraphrased reference name.

Table 1. Researched or Referenced Permits for the Pipeline GP and Fact Sheet.

APDES Permit Number - Name	Reference	Discharge Designation Number						
		001	002	003	004	005	006	007
AK0050563 — Alyeska Pipeline Service Company	APSC IP		X		X	X	X	
AKG331000 — Facilities Related to Oil and Gas Extraction	NSGP			X	X	X	X	X
AKG572000 — Small Treatment Works Discharging Domestic Wastewater to Surface Water	WW GP		X					
AKG002000 — Excavation Dewatering General Permit	Dewatering GP				X			
AKG003000 — Hydrostatic and Aquifer Pump Test	Hydrostatic GP					X		
AKR100000 — Discharges from Large and Small Construction Activities	CGP				X		X	
AKR060000 — Industrial Multi-Sector Storm Water Discharges	MSGP				X		X	
AKG283100 — Geotechnical Survey in the Beaufort and Chukchi Seas	Arctic Geotech	X	X					
AK0053686 — Kitchen Lights Unit Gas Production Platform A	KLU IP	X	X					
AK0062278 — ExxonMobil Alaska LNG, LLC, Cook Inlet Geotechnical Surveys	Cook Inlet Geotech	X						

1.6.1 Alyeska Pipeline Service Company Individual Permit

In 1993, EPA issued National Pollutant Discharge Elimination System (NPDES) individual permit AK0050563 – Alyeska Pipeline Service Company (APSC IP), which authorizes wastewater discharges associated with operation and maintenance activities for the Trans-Alaska Pipeline System (TAPS). The APSC IP authorizes discharges for hydrostatic test water, excavation dewatering, and domestic wastewater. The APSC IP also requires a storm water pollution prevention plan (SWPPP) to be developed for certain sites covered in the permit and for maintenance activities. EPA administratively extended the APSC IP on March 16, 1998 following receipt of an application for reissuance from Alyeska. The APSC IP remains effective until DEC issues the Pipeline GP to supersede it.

1.6.2 North Slope Facilities Related to Oil and Gas General Permit

The North Slope GP authorizes discharges related to oil and gas extraction facilities on the North Slope including construction (excavation) dewatering, gravel pit dewatering, hydrostatic test water, treated water effluent from mobile spill response, and storm water discharges from industrial facilities.

During the previous reissuance, EPA proposed to include TAPS given the significant similarity in discharges and geographic overlap. However, upon APSC request, the final NSGP continued to exclude TAPS. During development of the Pipeline GP, DEC is evaluating the North Slope GP to determine if it should be revised to align effluent limits, monitoring, and other permit conditions with the Pipeline GP. The North Slope GP expires January 31, 2017.

1.6.3 Domestic Wastewater General Permit

The Domestic WW GP authorizes discharges from small publicly or privately owned treatment works that treat to secondary treatment levels and discharge to either fresh or marine waters. Coverage under the Domestic WW GP is limited to facilities that discharge up to 1,000,000 gallon per day (gpd). Limits and monitoring requirements vary based on the design flow of the system. Small systems generally have fewer parameters and less frequent monitoring than the larger systems.

1.6.4 Excavation Dewatering General Permit

The Excavation Dewatering GP authorizes discharges to waters of the U.S. or disposals into groundwater and onto lands of the State. The Pipeline GP will be similar to the Excavation Dewatering GP for authorizing discharges to fresh water and land disposal. The Excavation Dewatering GP allows for discharges to waters of the U.S. (i.e., surface waters) with Best Management Practices (BMPs) and land disposals with proper erosion and sediment controls and BMPs. If excavation dewatering occurs within 1,500 feet of a contaminated site or contaminated groundwater plume, DEC may require additional monitoring and sampling requirements.

1.6.5 Hydrostatic General Permit

The Hydrostatic GP authorizes the discharge of hydrostatic test water from new or used pipelines and containment vessels. The Hydrostatic GP allows for discharges to waters of the U.S. and for disposals into or onto lands of the State. All discharges directly to waters of the U.S. are required to meet water quality criteria at the point of discharge.

1.6.6 Construction General Permit

The CGP authorizes storm water discharges from construction activities that disturb land greater than one acre. Coverage under the CGP requires a SWPPP to be developed to control discharges of sediment and prevent erosion. The CGP allows excavation dewatering to be discharged so long as proper control measures are applied and the discharge meets water quality criteria.

1.6.7 Multi-Sector General Permit

The Multi-Sector GP (MSGP) authorizes storm water discharges and allowable non-storm water discharges from industrial activities to waters of the U.S. The MSGP ensures protection of WQS by establishing control measures and BMPs on discharges from ten categories of regulated industries defined by 40 CFR 122.26(b)(14)(i-ix and xi). The ten categories of industry are divided into twenty-nine sectors based on Standard Industrial Classification (SIC) code or narrative activity. The oil and gas industry is listed under Sector I in the MSGP.

1.6.8 Arctic Geotech General Permit

The Arctic Geotech GP covers discharges of pollutants from marine geotechnical facilities that collect seafloor sediment data in State waters of the Beaufort and Chukchi Seas. If the geotechnical facilities use drilling fluids during the drilling process, the discharge of drilling fluids and drilling cuttings must be authorized along with incidental discharges that occur during the drilling activity. Due to the type of fluids proposed, the Arctic Geotech GP requires a Drilling Fluid Plan (DFP) and Environmental Monitoring Program (EMP) Plan. If just the surrounding seawater is being used as a fluid, then authorization for drilling fluids and drilling cuttings is not required because there are no mineral or chemical additives being discharged. However, authorization is required for incidental discharges that occur during the active drilling process. The Arctic Geotech GP also includes authorization of a mixing zone and zone of deposit (ZOD).

1.6.9 Furie Kitchen Lights Unit Individual Permit

The Kitchen Lights Unit Gas Production Platform A individual permit (KLU IP) authorizes discharges from a natural gas production facility located approximately 15 miles northwest of Nikiski Bay in the coastal zone of Cook Inlet. The covered discharges include domestic wastewater, deck drainage, and clay-based drilling fluids and cuttings associated with horizontal directional drilling (HDD). For HDD, the KLU IP requires a DFP and monitoring for sheen. Due to the potential for moderate toxicity in the proposed drilling fluids, an EMP Plan was not required. A mixing zone and ZOD for HDD are also authorized by KLU IP.

1.6.10 AK LNG Cook Inlet Geotechnical Surveys Individual Permit

The Cook Inlet Geotechnical Permit authorizes discharges of geotechnical drilling fluid and drilling cuttings and deck drainage from geotechnical survey facilities operating in coastal waters of Cook Inlet. Due to the very low toxicity in the proposed drilling fluids, neither a DFP nor EMP were required for the discharge of drilling fluids and drilling cuttings. The Cook Inlet Geotechnical Permit includes authorization of a mixing zone and ZOD for the HDD discharge.

2.0 BACKGROUND

Successful oil and gas production requires that hydrocarbon resources are transported for refining and brought to the market for sale. Alaskan hydrocarbon resources are delivered from production facilities to market by a series of in-state pipelines. The following section details general information of existing pipeline infrastructure within Alaska and the potential for future pipeline infrastructure.

2.1 Existing Pipelines

2.1.1 Trans-Alaska Pipeline System

TAPS was completed in 1977 and is a 48-inch diameter, crude oil pipeline that is approximately 800-miles long. TAPS begins from Pump Station (PS) 1 located in the Prudhoe Bay Unit on the North Slope and ends at the Valdez Marine Terminal in Valdez. Ancillary facilities consist of the Valdez Marine Terminal (VMT) and eleven (11) PSs. Four PSs include personnel accommodations that require domestic wastewater treatment facilities. APSC conducts routine maintenance activities that require discharging excavation dewatering and hydrostatic test water. These discharges are currently covered under the APSC IP. The Pipeline GP will replace and supersede the APSC IP. However, the Pipeline GP will not replace the existing individual permit for the VMT that authorizes the discharge of treated ballast water and industrial storm water. DEC will reissue the VMT Individual Permit in the future.

2.1.2 Cook Inlet Pipe Line Company

The Cook Inlet Pipe Line Company (CIPL) operates two onshore and two offshore crude oil pipelines on the west side of Cook Inlet. The first onshore 20-inch pipeline is 41.5-miles long and carries oil from the Granite Point Tank Farm to the Drift River Terminal (DRT). The second onshore pipeline is 2.5-miles long, beginning at the Trading Bay Production Facility and tying into the 41.5-mile long pipeline. Two 30-inch pipeline transfer crude oil from the DRT tank farm to oil tankers loaded at the Christy Lee Platform (CIPL, 2012). CIPL has been obtaining authorization for excavation dewatering and hydrostatic test water discharges under the Excavation Dewatering GP and the Hydrostatic GP. The Pipeline GP will provide another permitting option for CIPL.

2.1.3 Beluga Natural Gas Transmission Pipeline

The Beluga Power Plant Pipeline was built in 1984 and is owned by ENSTAR Natural Gas Company. The Beluga Natural Gas Transmission Pipeline is a 20-inch diameter pipeline that supplies gas from the Beluga Power Plant to residential and commercial customers in Anchorage. Similar to CIPL, ENSTAR currently uses the Excavation Dewatering GP and Hydrostatic GP for obtaining authorization for excavation dewatering and hydrostatic test water discharges, respectively.

2.1.4 Other Existing Significant Pipelines

The North Slope region of Alaska has numerous existing pipeline systems and several proposed pipelines. The pipelines are 12-inch to 18-inch in diameter and transport crude oil, utilities, natural gas, and produced waters. Construction and operation and maintenance of the pipelines are covered under the North Slope GP. The issuance of the Pipeline GP will not require the North Slope pipeline owners/operators to seek coverage under the Pipeline GP. However, the Pipeline GP provides additional coverage for HDD applications not offered by the North Slope GP.

Existing pipelines located in Southcentral Alaska range from 6-inch to 12-inch in diameter and transport crude oil, fuel, and natural gas. Several pipelines located in Southcentral Alaska do not currently obtain coverage under a single general permit. Similar to those operated by CIPL and ENSTAR, the Pipeline GP may eliminate the need for seeking coverage under multiple general permits for those entities.

2.2 Potential Future Pipelines

2.2.1 Donlin Gold Pipeline

Donlin Gold LLC has filed an application to construct a 14-inch diameter, 315-mile buried natural gas pipeline that begins from the Beluga Power Plant and terminates at the planned Donlin Gold Mine. Ancillary facilities will include one compressor station, a fiber optic communication line, and an electric transmission line from Beluga Power Plant to the compressor station (Donlin, 2013). DEC anticipates that Donlin Gold would apply for coverage under the Pipeline GP, pending project sanction.

2.2.2 Alaska Liquefied Natural Gas Pipeline

The Alaska Liquefied Natural Gas (AK LNG) Pipeline is a proposed new 42-inch diameter and 800-miles long natural gas pipeline from the North Slope to Cook Inlet. The pipeline will begin at a Gas Treatment Plant located in Prudhoe Bay and terminate at a proposed Liquefaction Facility in Nikiski, Alaska. Ancillary facilities will include compressor stations, meter stations, and various mainline block valves, and pig launchers and receivers (AK LNG Project, 2014). DEC anticipates that AK LNG would apply for coverage under the Pipeline GP pending project sanction.

2.2.3 Alaska Stand Alone Pipeline

The Alaska Stand Alone Pipeline (ASAP) is a proposed in-state, buried gas pipeline designed to provide long-term, stable supply of natural gas from the North Slope to Fairbanks and Cook Inlet, as well as other communities where practicable. The proposed pipeline is a 36-inch diameter pipeline, 737-miles long, natural gas transmission mainline extending from the Gas Conditioning Facility on the North Slope to an existing ENSTAR pipeline system in the Matanuska-Susitna Borough (US Army Corp of Engineers, 2014). The ASAP Project may

include several laterals or takeoff points along the route. DEC anticipates that ASAP would apply for coverage under the Pipeline GP pending project sanction.

2.2.4 Interior Gas Utility

The Interior Gas Utility (IGU) was established by the Fairbanks North Star Borough (FNSB) for the purpose of delivering natural gas to the largest number of FNSB residents at the lowest sustainable cost in the shortest amount of time. In order to deliver gas to residents, IGU will install transmission and service gas lines in the Fairbanks area. The larger transmission lines may qualify for coverage under Pipeline GP. DEC will use discretion on a case-by-case basis for qualifying as a significant pipeline with respect to obtaining coverage under the Pipeline GP.

2.2.5 Potential Significant Pipelines

DEC anticipates there will be other significant oil and gas pipelines that will be constructed that are not currently identified. For example, the AK LNG pipeline may provide up to five take off points that will allow other entities to construct gas pipelines that serve Alaskan communities along the main pipeline route. Significant pipelines from main transmission pipelines may be able to seek coverage for discharges associated with the construction, maintenance, and operation activities.

3.0 WASTEWATER CHARACTERIZATION

The Pipeline GP authorizes wastewater discharges or land disposal from sources that may not have existing effluent data available, or have limited effluent data. Other authorized discharges or land disposals can be characterized using data from existing facilities discharging under an existing permit to be superseded by the Pipeline GP (e.g., APSC IP). Accordingly, existing general permits and the ASPC IP will be used to evaluate the potential pollutants of concern (POC). Based on discharges applicable to oil and gas pipelines, the following sections characterize wastewater effluent, using data when available and applicable.

3.1 Drilling Fluids and Drill Cuttings (Discharge 001)

Drilling fluids and drill cuttings coated with drilling fluids require an authorization to discharge into waters of the U.S. under Section 402 of the CWA if the drilling fluids contain anything other than water. Drilling fluids are typically composed of a base fluid (e.g., freshwater, saltwater, synthetic fluid, etc.) and fine-grained materials used to enhance and control properties of the fluid mixture (e.g., clays, natural or synthetic polymers, salts, weighting agents, or other additives). Fluid mixtures are developed in consideration of the anticipated geology, purpose, and methods of a drilling program.

In uncomplicated geologic formations, drilling fluids are used to lubricate and cool the bit as well as sweep the drill cuttings. These fluids are typically ubiquitous and consist of clays or polymers that have little to no measurable aquatic toxicity. For more complicated geologic formations, elaborate drilling fluid formulations may be necessary to account for both the nature and the depth of the formation. These fluids could include weighting agents or other additives that have higher toxicity or metals concentrations (e.g., barite, lignosulfonates, etc.).

Regardless of specific formulations, drilling fluids have the potential to exceed freshwater quality criteria at the point of discharge (e.g., turbidity). In addition, additives may increase aquatic toxicity or pose risks to human health and these additives should be evaluated based on an understanding of the proposed drilling fluids formulation. Aquatic toxicity for drilling fluids can be measured using a Sediment Particulate Phase (SPP) Toxicity Test which also accounts for

abrasive and smothering effects of particulates in a mixture at varying concentrations. Specifically, a SPP Analysis (using EPA Method 1619) measures for the 50 percent (%) lethal concentration (LC₅₀) of a fluid mixture over a 96-hour (hr) period (96hr LC₅₀). Typical results are conveyed in units of parts per million (ppm) or as a percent concentration. The higher the LC₅₀ concentration the lower the toxicity.

The Department has evaluated drilling fluids and found that they can be used for a variety of reasons, including non-oil and gas and oil and gas activities. Common non-oil and gas drilling includes, but is not limited to, geotechnical borings for core sediment sample collection, direction drilling for installation of utility line crossings to avoid surface features, and borings for installation of pipeline infrastructure such as vertical support members or cathodic protection. Oil and gas activities include drilling wells for exploration, development, production, and injection wells. Only the discharges of drilling fluids and drill cuttings from oil and gas exploration, development, and production are applicable to ELGs in 40 CFR 435.

Typically, the non-oil and gas activities occur in the shallow subsurface regions less than 500 feet, encounter predictable uncomplicated geology, and use predictable low toxicity fluid systems. For this reason, the Department divides drilling fluid characterization into two categories: fluids used for shallow non-oil and gas activities (Type A Drilling Fluids), and fluids used for deeper oil and gas activities (Type B Drilling Fluids). The Department considers only Type B Drilling Fluids as applicable to oil and gas standards and regulations (e.g., 40 CFR 435). However, some of the tests that have evolved from the oil and gas industry may be used to characterize and classify non-oil and gas fluid systems.

The Pipeline GP considers only Type A Drilling fluids for discharge. Type A Drilling Fluids are further characterized by SPP analysis results, complexity of fluid mixture, and other POCs such as metals. In the Pipeline GP, Type A Drilling Fluids do not include the use of brines while conducting activities in freshwater due to potential concerns for total dissolved solids. Table 2 provides a breakdown of fluid subcategories used in the Permit.

Table 2: Subcategories for Type A Drilling Fluids

		Category Name 96hr LC50 SPP Value (ppm)	A1 >750,000	A2 >500,000	A3 >500,000
Characteristics	Number of Ingredients ¹		≤2	>2	>2
	Barite Allowed		○	○	●
	Base Fluid (Fresh Water (FW) / Sea Water (SW)/ Synthetic (S)		FW	FW	FW
Application Requirements	Estimate (E) / Analyze (A) SPP 96hr LC50		E ²	E ²	A
	Drilling Fluid Plan (DFP)		○	●	●
	Total Recoverable Metals Analysis ³		○	○	●
	Chemical Inventory Report		○	●	●
NOTES:				Key:	
<ol style="list-style-type: none"> 1. Base Fluids listed above are not included as an ingredient. 2. If estimate does not meet SPP requirement, a follow-up SPP Analysis may be used to verify actual SPP. 3. Applicants using Barite must batch test stock for total recoverable metals using cadmium and mercury as surrogate parameters. Analysis should be conducted using EPA Method 200.7 for cadmium and EPA Method 245.5 or 7471 for mercury. To be considered Type A3 Drilling Fluid, results must be included in DFP indicating concentrations for Cadmium (Cd) ≤ 3 mg/kg, and for Mercury (Hg) ≤ 1mg/kg. 				<p>○ No</p> <p>● Yes</p>	

Type A1 Drilling Fluids

Type A1 Drilling Fluids are expected to be used for most shallow borings and for shorter segments of HDD in uncomplicated geology. These are simple fresh water-based fluid mixtures which contain no more than two additives. For this subcategory, fluid mixtures selected for a project are disclosed in a Notice of Intent (NOI) and have an individual and combined SPP Estimate of 750,000 ppm or greater. Ingredients containing metals such as barite are not included. The Department has grouped A1 fluids together based on the higher SPP concentration and simplicity of the fluid.

Type A2 Drilling Fluids

Type A2 Drilling Fluids are anticipated to be used for projects which may encounter a variety of conditions in the field while conducting HDD or geotechnical investigations. Some common additives for these types of activities include: bentonite (clay) and natural or modified polymers such as starches, cellulose (plant fiber), xanthan gum (corn sugar modified by bacteria) and guar gum (ground guar seeds). Type A2 Fluids are categorized by the Department as water-based fluid mixtures with an SPP estimate or analysis of 500,000ppm or greater which may contain more than two additives. Because Type A2 fluid mixtures could include multiple additives, all anticipated products and mixtures are disclosed in a DFP which demonstrates the SPP value of the mixture of all additives at their maximum expected concentration is 500,000 ppm or greater.

Ingredients containing metals such as barite are not included. Type A2 Fluids are grouped together based on moderate to high SPP concentrations and moderate flexibility to change fluids based DFP and field conditions.

Type A3 Drilling Fluids

While it is unlikely that these fluids would be needed for shallower formations, they are included for when complex geology is encountered in HDD or shallow geotechnical investigations. Type A3 fluids may include weighting agents containing metals that require higher environmental controls during use. For the purposes of the Permit, the Department allows only barite in this category. Barite is characterized as a slurry of clay mineral with metals tightly adhered to the clay matrix. Dissolution of these metals is not expected to occur to an appreciable level in the fresh water. Instead, metals are retained on the clay particles that are swept up by stream currents and transported downstream. The Permit addresses metals in drilling fluids through source control strategies and BMPs.

Type A3 fluids also require additional DFP data which includes a metals analysis on stock barite where cadmium and mercury are surrogate parameters (see Table 2). Type A3 fluids also allow for mixtures with multiple additives. Therefore, each product and all anticipated mixtures must be disclosed in the DFP along with corresponding SPP analysis demonstrating a 96hr LC₅₀ of 500,000ppm or greater. Type A3 Fluids are grouped together based on activity characteristics and the use of ingredients, which may contain metals where concentrations, fate, and transport must be carefully considered in freshwater environments.

3.2 Domestic Wastewater (Discharge 002)

Per 18 AAC 72, domestic wastewater is waterborne human waste generated from toilets and urinals (blackwater) and laundry, kitchen, sink, shower, or bath water (graywater). Domestic wastewater treatment typically includes primary treatment to remove settleable solids (grit), secondary biological treatment to remove organics that impart an oxygen demand, secondary settling to remove biological solids (microorganisms), and disinfection. In some instances where chlorine is used in the disinfection step, final treatment includes removal of chlorine (dechlorination) so the effluent does not exceed the chlorine water quality criteria.

APSC currently has four PSs that are authorized to discharges domestic wastewater. Wastewater at the pump stations are treated using rotating biological contactors (RBCs), waste activated sludge (WAS) biological treatment systems, or an Orenco AdvanTex Wastewater (OAT) Treatment Plant (WWTP) followed by either ultraviolet (UV) or chlorine disinfection followed by dechlorination (Chlor/Dechlor). Table 3 provides a summary of APSC treatment systems.

Table 3: Alyeska Pump Station (PS) Treatment Systems:

Design Parameter	PS 3	PS 4	PS 5	PS 6
Secondary Biological Treatment Type	RBC	RBC	WAS	OAT
Disinfection Type	UV	UV	Chlor / Dechlor	UV
Design Capacity (gpd)	14,000	14,000	8,000	8,000
Operating Percent Capacity (%)	27%	58%	54%	21%
Population Served (Max / Ave)	148 / 105	120 / 75	50 / 40	44 / 20
Discharge Location	Tundra	Tundra	Wetland	Upland
Mixing Zone	N/A	500 ft	N/A	N/A

Per 18 AAC 72.050, minimum treatment (secondary treatment) must be accomplished prior to discharging domestic wastewater. Secondary treatment is defined as effluent meeting limits for five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), and potential of hydrogen (pH). The maximum daily limit (MDL) for both BOD₅ and TSS is 30 milligrams per liter (mg/L) and the average monthly limit (AML) is 60 mg/L. The secondary treatment limits for pH is between 6.0 and 9.0 measured in Standard Units (SU). DEC evaluated effluent data from existing secondary treatment facilities operated by APSC to characterize domestic wastewater for the Pipeline GP since these facilities represent the domestic wastewater discharges that are expected to be covered under the Permit upon the effective date.

3.2.1 Alyeska Pipeline Company Pump Station 3, 4, 5, and 6

3.2.1.1 Effluent Characterization

DMR data was reviewed and compared to existing numeric limits, where applicable, for each PS. Numeric effluent limits include BOD₅, TSS, total residual chlorine (TRC), fecal coliform (FC) bacteria reported in the number of colonies/100 ml (FC#/100 ml), and pH. Table 4 provides the domestic wastewater characterization of monitored parameters for PS 3, 4, 5, and 6.

Table 4: Domestic Wastewater Characterization of Monitored Parameters (January 2012 to March 2016)

Parameter	Existing Limits		Observed Range (Low –High) Average			
	AML	MDL	PS 3	PS 4	PS 5	PS 6
Flow (gpd)	–	–	(144 - 6,810) 3,698	(4,130 - 10,258 ²) 8,169	(716 -10,228) 3,875	(249 - 4,950) 1,814
BOD ₅ (mg/L)	30	60	(1.5 - 30.6) 5.1	(2.85 - 16.10) 7.2	(<1.0 -11.0) 5.0	(6.2 - 47.2) ¹ 18.0
TSS (mg/L)	30	60	(<1.0 – 19.0) 6.7	(0.47 – 18) 6.63	(<1.0 - 319) 19.7	(<1.0 -19.0) 8.3
FC #/100/ml	200	400	(<1– 740) 11	(<1.0 - 1,300) 64.31	(<1 - 220) 14	(<1 - 200,000) 5,112
TRC (mg/L)	N/A	2 ²	(0 – 2) 0.04	UV System	0	UV System
pH ³	6.5 ≤ pH ≤ 8.5		(6.7 - 8.5) 7.9	(6.27 - 8.06) 7.47	(6.4 -11.0) 7.2	(6.5 -8.5) 8.0

Notes:

1. Daily Maximum applies only to Pump Station 4
2. PS 4 low flow rate is the lowest maximum daily flow rate reported. PS 4 is not required to report minimum flows.
3. Numbers in bold are limit exceedances but necessarily permit violations.
4. DML for Chlorine applies to PS 3 and PS 5. PS 4 and PS 6 have UV systems for disinfection.
5. Median values are used instead of average values for pH.

3.2.1.2 Permit Limit Exceedances

Pump Station 3:

PS 3 had one exceedances for fecal coliform bacteria of 740 #/100 ml occurring on November 4, 2015. APSC reports that the elevated fecal coliform bacteria resulted from a low chlorine concentration during the disinfection step.

Pump Station 4:

PS 4 had two exceedances for fecal coliform bacteria of 1,300 #/100 ml and 1,270 #/100 ml occurring on February 11 2015 and February 15, 2015, respectively. APSC reports that the elevated fecal coliform bacteria resulted from a biological bacteria colony that formed inside the effluent pipe. The effluent pipe was cleaned and the pipe will receive a regular cleaning schedule to prevent the buildup of bio-slime.

Pump Station 5:

Pump Station 5 has had three exceedances for pH, five exceedances for fecal coliform bacteria, and four exceedances for TSS. The pH exceedances were 6.4, 6.4, and 11 and occurred for three consecutive days in December 2012 due to a faulty pH meter.

The fecal coliform bacteria exceedances were 54 #/100 ml and 200 #/100 ml, 36 #/100 ml, 280 #/100 ml, and 36 #/100ml, which occurred in September 2013, July 2014 June 2015, August 2015, and September 2015, respectively. APSC believes that the elevated fecal coliform bacteria resulted from abundant wildlife in the area at the point of compliance, which is in an open drainage ditch. This assessment is based on samples collected inside the wastewater treatment plant that were less than 9 #/100 ml.

The TSS exceedances at were 63 mg/L, 63 mg/L, 204 mg/L, and 319 mg/L and occurred in June, July, and August 2013 after construction by a third-party contractor disturbed the drainage area near the point of compliance. This disturbance is believed to have resulted in soil erosion that contributed to the TSS exceedances.

Pump Station 6:

Pump Station 6 has three exceedances for BOD₅ and six for fecal coliform bacteria. The BOD₅ exceedances were 33.4 mg/L, 47.2 mg/L, and 34.8 mg/L and occurred in March 2012, October 2012, and December 2014, respectively. The March 2012 exceedance was caused by a blocked ventilation system associated with the biological treatment system. The October 2012 exceedance was due to new kitchen staff whom were unfamiliar with the standard kitchen practices and overloaded the treatment plant.

Fecal coliform bacteria exceedances were 9,000 #/100 ml, 2000,000 #/100 ml 17,000 #/100ml, 9,600 #/100 ml, 2100 #/100 ml, 770 #/100 ml, and 10,000 #/100 ml and occurred in February and March 2012, October 2013, and March, April, and May 2015. The permittee is evaluating the cause of these exceedances and suspects it may be due to system upsets. Based on preliminary evaluation, the UV system appears not to be the cause of the fecal coliform bacteria exceedances; the UV has been cleaned and bulbs replaced yet exceedances have reoccurred. The permittee has hired a third party expert to evaluate the biological and clarifier unit to recommend a professional opinion and recommendations for engineering or operational improvements.

Compliance History:

A review of reporting performance from APSC found that the Permittee failed to report one exceedance. In December 2014, the permittee failed to turn in a Notice of Noncompliance for a BOD₅ exceedance from PS 6. However, APSC did report this exceedance on their December 2014 DMR report. DEC inspected the domestic wastewater treatment facilities at PS 3, 4, 5, and 6 in October 2012 and no concerns were noted for any of the facilities.

3.3 Gravel Pit Dewatering (Discharge 003)

Gravel deposits are typically composed of weathered and eroded unconsolidated rocks fragments that may include silt and clay lenses deposited by rivers and glaciers. Gravel pits are developed for construction of roads, pads, and other fill activities. Gravel pits can accumulate rain and snowmelt water during breakup that requires removal to extract the material. POCs associated with gravel pits are sediment and turbidity from disturbing the material source and hydrocarbons from the use of equipment.

The most common methods for gravel pit dewatering for material mining are submersible pumps, wells, and well points. On the North Slope, gravel pit water is also used as a source for ice roads and pad development during the winter and for dust suppression for gravel roads in the thawed season. Although DEC does not anticipate that ice roads will be developed south of the North Slope, the use of gravel pit water for ice construction and road watering may apply anywhere in the area of coverage. Note that gravel pits that have been successfully rehabilitated to be considered habitat by the Alaska Department of Fish and Game do not require authorization for water use under the Pipeline GP.

3.4 Excavation Dewatering (Discharge 004)

Dewatering is the removal of water from construction excavations where precipitation, snowmelt water, or infiltrating groundwater hinder the construction activity. Excavation dewatering is primarily related to trench dewatering for the installation of utilities, pipeline repair, and for construction of building footers. The most common methods for dewatering include submersible pumps, wells, and well points. Dewatering activities near gravel bed streams will likely require higher rates of withdrawal due to increased permeability of the larger soil particles when compared to locations with less impermeable soils. The main POCs for excavation dewatering discharge are sediment and turbidity. Sediment can be effectively controlled using filtration or settling basins. Alternatively, discharges to dry stream channels with vegetation or to snow in the winter has also proved effective because the vegetation or snow acts as a natural filter for sediment. However, sensitive vegetation, such as tundra, must be protected from accumulation of sediment that could cause an adverse impact (greater than 1/8th of an inch). In contrast, vegetation in dry stream channels are not adversely impacted by sediment accumulations; the addition of sediment supports new growth of vegetation in dry stream channels.

Turbidity may be more difficult to control depending on how much the turbidity is associated with fine-grained materials (i.e., silts and clays). Silts and clays are typically difficult to reduce unless coagulant aids are used with settling basins, filters bags, or treatment systems. If removal of silts and clays is not effective despite use of enhanced treatment, the discharge may still exceed turbidity criteria.

When excavations occur next to underground sources of contamination, the discharges of excavation dewatering can include additional POCs depending on the nature of the contaminant. Typically, the contaminants are petroleum hydrocarbons. However, solvents and metals may be contaminants of concern. The hydrocarbons can be in the form of free product (sheen), dissolved total aromatic hydrocarbons (TAH) and total aqueous hydrocarbons (TAqH), or partitioned onto fine grained sediment. The Department believes that excavations near contaminated sites will be infrequent.

3.5 Hydrostatic Test Water (Discharge 005)

Before oil and gas is transported through a new or repaired pipeline, the pipeline needs to be hydrostatically tested in order to detect if there are leaks. If the pipeline is new, the primary POC is sediment, debris, or welding slag left behind during construction. If the pipeline is in service, petroleum hydrocarbons are also a concern. If testing occurs during winter conditions, hydrostatic testing could include the use of antifreeze chemicals or could include heated water to prevent freezing. In addition, biocide may be used to prevent development or proliferation of bacteria. Sediment, turbidity, TAH, and TAqH are considered typical POCs. Whereas, antifreeze agents, heated water, and biocides are considered atypical.

Under the Pipeline GP, hydrostatic test water includes contained water associated with other oil or gas pipeline infrastructure including, but not limited to, valve vaults, basements, non-hydrocarbon pipelines, tanks, utilidors, and flow meter corridors. The contained water must be demonstrated to be similar in characteristics as hydrostatic test water described for oil and gas pipelines. DEC may request additional information of source water or contained water to determine whether coverage is applicable.

3.6 Storm Water (Discharge 006)

Storm water runoff originates from rain, snow, and snowmelt events that, if not appropriately managed, can come into contact with contaminants and transport sediment, debris, and chemical pollutants into receiving waters. The management techniques to prevent discharges with storm water pollutants depends on the type of facility and the risks associated with the industrial activities.

3.6.1 Construction

Construction activities that disturb lands can cause an increase in sediment, which could elevate sediment loads and turbidity in a waterbody. A primary concern at construction sites is the erosion and transport process related to fine sediment because of rain splash, rills, and sheet flow. If the site is not managed properly, the disturbed soil can be washed off site during storm events. In addition to sediment, a number of other pollutants (e.g., metals, organic compounds, and nutrients) are preferentially absorbed or adsorbed onto mineral or organic particles found in fine sediment. Increased sediment in waterbodies can threaten multiple life cycles of anadromous and resident fish species. The typical POCs associated with construction storm water is sediment, metals, organic compounds, and nutrients.

3.6.2 Operations

Industrial facilities may have storm water (rain, snow, and snowmelt) runoff that could come in contact with material that can cause storm water to become contaminated (contact storm water). In general, water that has come into contact with a source of contamination that would result in violation of water criteria is not allowed to be discharged as storm water (non-allowable storm water discharges). In addition, there are specific types of discharges that are allowed to be discharged along with storm water such as firefighting water (allowable non-storm water discharges). Lastly, there are discharges that are prohibited because they are specifically covered by effluent limitation guidelines for the specific industrial activity (e.g., gravel pit dewatering). Only discharges of non-contact storm water or allowable non-storm water discharges are addressed herein.

The quantities and types of storm water discharged are dependent on many variables, including the type of industrial activity that the facility is engaged in (sector of industry), pollutants of

concern, and the type and intensity of the runoff event. DEC has identified the following six typical types of activities associated with pipeline construction and operation that have the potential to be major sources of pollutants in storm water:

- loading and unloading operations,
- outdoor storage,
- outdoor process activities,
- dust or particulate generation processes,
- illicit connections and non-storm water discharges, and
- waste management.

The typical POCs associated with operations storm water is sediment, metals, and petroleum hydrocarbons but may also include other chemical parameters stored at a facility.

3.7 Mobile Spill Response (Discharge 007)

Mobile Spill Response covers discharges associated with treated snowmelt, rain, or other water that has come into contact with hydrocarbons such as motor oil, diesel, gasoline, transmission, hydraulic oil from small leaks that occur from motorized vehicles and equipment. Other sources include, but may not be limited to, drip pan water and shop melt water. Water impacted by petroleum hydrocarbons will be the only source considered under mobile spill response. Accordingly, petroleum hydrocarbons are the POCs associated with Mobile Spill Response discharges and the discharge must receive some degree of treatment that can demonstrate the capability to remove dissolved hydrocarbons.

Most often, small volumes of hydrocarbon impacted water is remediated by removing the sheen and placing the impacted water in a 55-gallon water-scrubbing unit containing oleophilic (hydrophobic) absorbents to remove the dissolved hydrocarbon. Currently, these types of systems have been demonstrated to be effective and used extensively on the North Slope. Discharging larger volumes is possible but the treatment system would require Department review to ensure removal of dissolved hydrocarbons is attained by the proposed treatment process or system. For smaller sources, a BMP procedure may suffice to demonstrate adequate treatment processes. Once approved, systems or processes can be adopted as a BMP tool.

4.0 EFFLUENT LIMIT DEVELOPMENT

4.1 Basis for Permit Effluent Limits

18 AAC 83.015 prohibits the discharge of pollutants to waters of the U.S. unless first obtaining a permit implemented by the APDES Program that meets the purposes of Alaska Statutes 46.03 and in accordance with CWA Section 402 and the requirements adopted by reference at 18 AAC 83.010. Per these statutory and regulatory provisions, the Permit includes effluent limits for discharges to water of the U.S. that require the discharger to (1) meet standards reflecting levels of technological capability, (2) comply with WQS, and (3) comply with other state requirements that may be more stringent.

In establishing permit limits, DEC first determines which TBELs from national effluent limit guidelines (ELG) must be incorporated into the Permit. Where national ELGs have not been developed, or did not consider specific pollutant parameters in discharges, the same performance-based approach applied to develop national ELGs is applied to specific industrial discharges using Best Professional Judgment (BPJ) to develop TBELs for the Permit. DEC then evaluates the effluent quality (See Section 3.0) expected to result from these technological

controls to determine if the discharge could result in, or contribute to, exceedances of the water quality criteria in the receiving water. If the expected water quality of the effluent could reasonably be exceeded, or contribute to an exceedance of applicable water quality criteria, a WQBEL must be included in the Permit. The limits in the Permit reflect whichever requirements (technology-based or water quality-based) are more stringent. Using this process as described, DEC has developed permit conditions that comply with WQS and protect existing or designated uses of the receiving waterbody.

4.2 Technology-Based Effluent Limits

TBEL's include specific TBELs promulgated for industrial categories (ELGs) or TBELs that have been developed using case-by-case BPJ. The following sections discuss applicable TBELs evaluated during effluent limit development and ultimately compared to any WQBEL for the discharges for selecting the most stringent effluent limit.

4.2.1 Technology-Based Effluent Limits Using Effluent Limit Guidelines

National ELGs are developed based on the demonstrated performance of a reasonable level of treatment that is within the economic means of specific categories of industrial facilities. For conventional pollutants (see 40 CFR § 401.16), CWA Section 301(b)(1)(E) requires the imposition of effluent limits based on Best Conventional Pollutant Control Technology (BCT). For nonconventional and toxic pollutants, CWA Section 301(b)(2)(A), (C), and (D) require the imposition of effluent limits based on Best Available Technology Economically Achievable (BAT). CWA Section 301(b) requires compliance with BCT and BAT no later than March 31, 1989. The compliance deadline for Best Practicable Control Technology Currently Available (BPT) was July 1, 1977. DEC reviewed existing ELG's to the type of industrial facilities covered by the Pipeline GP and compared them to applicable ELGs. As a result of the review, DEC determined there is only one applicable TBEL based on ELGs in 40 CFR 436 for Gravel Pit Dewatering.

Gravel Pit Dewatering (Discharge 003): Effluent limits based on BPT for Gravel Pit Dewatering are published in 40 CFR §436 Subpart C – Construction Sand and Gravel Subcategory. The BPT ELG states that mine dewatering discharges shall not be less than a pH of 6 or greater than a pH of 9.

4.2.2 Developing TBELs Using Case-by-Case Best Professional Judgment

Per Section 402 of the CWA, developing a case-by-case TBEL using BPJ requires the permitting authority to consider the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, the cost of achieving such effluent reduction, non-water quality environmental impact (including energy requirements), the cost of implementing these conditions relative to the environmental benefits achievable, and such other factors as deemed appropriate. Frequently, existing ELGs established for similar industries that are believed to have similar waste streams and waste characteristics are used to justify TBELs using case-by-case BPJ because the analysis has already been performed. However, DEC has not established TBELs using case-by-case BPJ for discharges described in this Permit.

4.3 Water Quality-Based Effluent Limits

CWA Section 301(b)(1) requires the establishment of limits in permits necessary to meet WQS by July 1, 1977. All discharges to state waters must comply with WQS, including the antidegradation policy. Per 18 AAC 83.435(a)(1) permits require development of water quality

based effluent limits (WQBELs) that "achieve water quality standards established under CWA Section 303, including State narrative criteria for water quality."

Because there are no TBELs developed to compare to WQBELs for Drilling Fluids and Drilling Cuttings, Domestic Wastewater, Excavation Dewatering, Hydrostatic Test Water, and Mobile Spill Response, all WQBELs are automatically adopted as the most stringent limit for these discharges. For discharges where comparisons are available between TBEL's and WQBEL's, the most stringent limit is adopted per titled subsections for each discharge in Section 4.3.1 to 4.3.6.

4.3.1 Drilling Fluids and Drilling Cuttings (Discharge 001)

While the Department determined that ELG-based TBELs do not apply to the Type A drilling fluids and drill cuttings, there are numeric and narrative water quality criteria applicable as WQBELs for Drilling Fluids and Drill Cuttings (Discharge 001). Based on review of the characteristics of the discharge of inadvertent releases of drilling fluids, the Department believes there is reasonable potential for turbidity to exceed, or contribute to an exceedance, of water quality criteria in the receiving water at the point of emergence of the release. No other parameters of concern are believed to have reasonable potential. However, the Department has established a prohibition of petroleum hydrocarbon discharges (oily sheen) and narrative limitations on residues to ensure water quality standards and existing uses are protected.

Turbidity: Per 18 AAC 70.020(b)(12)(A)(i) water quality criteria for turbidity in fresh water may not exceed 5 nephelometric turbidity units (NTU) above natural conditions when the natural turbidity is 50 NTU or less. The turbidity limitation may not have more than a 10 % increase in turbidity when the natural turbidity is more than 50 NTU and it is not to exceed a maximum increase of 15 NTU. Turbidity shall not exceed 5 NTU over natural conditions for all lake waters.

If an inadvertent release occurs, turbidity limits will apply either at the point of emergency or at the boundary of a chronic mixing zone if authorized. Because the turbidity criteria is in reference to the receiving water turbidity, the Permit will require daily turbidity monitoring of the effluent, upstream and at the point of emergence or 500 feet downstream of the discharge point that corresponds to the boundary of the mixing zone, if authorized. If a release occurs during winter when observations of the receiving water is not impacted due to ice cover, DEC may require coring through the ice to ensure compliance with permit limits.

Petroleum Hydrocarbons, Oils, and Grease: The use of oil in Type A drilling fluids is prohibited. However, equipment may be present near drilling activities that could introduce petroleum products into the fluids. Per 18 AAC 70.020(b)(5)(A)(ii), petroleum hydrocarbons, oil, and grease, may not cause a visible sheen upon the surface of the water. In the event of an inadvertent release of drilling fluids, the permittee must monitor for presence of a sheen at the mud pit using EPA Method 1617 and by observation of the water surface if possible (e.g., during periods of no ice cover). If the inadvertent release occurs during ice cover, the permittee may be required to monitor freshwater conditions below the ice to ensure compliance with the Permit.

Residues: Residues include floating solids, debris, sludge, deposits, foam, or other objectionable conditions. Per 18 AAC 70.020(b)(8), a discharge "may not, alone or in combination with other substances, cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines." During an inadvertent release of drilling fluids, the permittee must observe the receiving water for objectionable conditions attributable to residues.

Residues will be applied as a standard narrative permit condition in the Pipeline GP for all discharges.

4.3.2 Domestic Wastewater (Discharge 002)

The limits imposed for domestic wastewater are derived from WQS and 18 AAC 72 – Domestic Wastewater Disposal (See Section 5.1.2). The appropriate water quality criteria to be considered in the RPA for the discharge of domestic wastewater to freshwater includes pH and FC bacteria per 18 AAC 70.020(b) and TRC per *Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances (Toxics Manual)*. Because there are no mixing zone authorizations proposed for domestic wastewater, the RPA was conducted at the point of discharge to the receiving water. The Department has concluded that there is reasonable potential for these three parameters to exceed, or contribute an exceedance, of their respective water quality criteria at to the point of discharge. Accordingly, these parameters will have limits based on their respective water quality criteria at the point of discharge.

pH: Based on the use classification for water supply used for aquaculture per 18 AAC 70.020 (6)(A), pH must be no less than 6.5 SU and no greater than 8.5 SU.

FC Bacteria: FC bacteria are a non-pathogenic indicator species whose presence suggests the likelihood that pathogenic bacteria are present. The most stringent water quality criteria per 18 AAC 70.020(b)(2)(A)(i) provides protection for water supply designated for drinking, culinary, and food processing. The water quality criteria requires that in a 30-day period, the geometric mean may not exceed 20 FC#/100 ml, and not more than 10% of the samples may exceed 40 FC#/100 ml. The 40 FC#/100 ml is applied as a MDL while the 20 FC#/100ml is applied as an average monthly limit AML using a geometric mean.

The Department is proposing to promulgate criteria for Escherichia coli (E.coli) bacteria in the near future. Because criteria have not been adopted and approved by EPA at this time, no limits are included in the Permit. However, monitoring for E. coli is required in anticipation of criteria.

TRC: The water quality criteria for TRC is listed under the *Toxics Manual* for the protection of aquatic life in freshwater as an acute concentration of 0.019 mg/L and a chronic concentration of 0.011 mg/L. The method detection limit for this parameter is 0.1 mg/L (100 µg/L) and will be used as the compliance level for this parameter.

4.3.3 Gravel Pit Dewatering (Discharge 003)

Based on review of the characteristics of the discharge of gravel pit water, the Department believes there is reasonable potential for pH, turbidity, and settleable solids to exceed, or contribute to an exceedance, of water quality criteria in the receiving water and establishes WQBELs accordingly. No other parameters of concern are believed to have reasonable potential based on available information. However, the Department has established a prohibition of petroleum hydrocarbon discharges (oily sheen) and limitations on residues to ensure water quality standards and existing uses are protected. In addition, if an oily sheen is observed, then monitoring for TAH and TAqH is required to characterize the effluent and evaluate reasonable potential in subsequent permit reissuances.

The proposed approach for either being within 1,500 feet of a known contaminated site or encountering previously unknown underground sources of contamination is to coordinate with the DEC Contaminated Sites Program (CSP) for complying with their requirements in addition to limitations imposed by the Permit. Because the CSP may impose requirements to comply with

18 AAC 70 and 18 AAC 72 for discharges and disposals, overlapping authority and duplication of regulatory oversight may be avoided with coordination between CSP and WDAP.

pH: See pH limits as discussed previously for domestic wastewater.

Turbidity: Limits described in Section 4.3.1 for turbidity apply. Because the turbidity criteria is in reference to the receiving water turbidity, the Permit will require daily turbidity monitoring of the receiving water and the effluent and to demonstrate compliance with the turbidity limit at the point of discharge. If a mixing zone is authorized for turbidity, permittees must demonstrate compliance with the turbidity limit by monitoring the upstream receiving water turbidity, the effluent, and the receiving water 500 feet downstream of the discharge point that corresponds to the boundary of the mixing zone.

Note that if the discharge is to an area that is considered waters of the U.S. but does not have a direct connection to an open waterbody such as a dry stream channel, tundra, or snow then it may not be possible to measure turbidity in the receiving water to demonstrate compliance with the water quality criteria. In these situations where it is not possible to demonstrate compliance with the turbidity criteria, the turbidity limit is not applicable so long as there is no direct connection to a waterbody. However, the permittee would still need to apply BMPs to prevent accumulation of sediment of sufficient depth to adversely impact sensitive vegetation (i.e., tundra). BMPs are also required to prevent erosion and thermokarsting at the point of discharge and beyond.

Settleable Solids: Per 18 AAC 70.020(b)(9)(A)(i), there can be no measurable increase in concentrations of settleable solids above natural conditions, as measured by the volumetric Imhoff cone. The concentration of 0.2 ml/L is established as the smallest measurable increase using the Imhoff cone (i.e., the minimum reporting limit per EPA Standard Method 2540 F). Unlike turbidity, the limit of SS applies whether or not a receiving water sample is practicable in order to control accumulation of sediment (e.g., prevent excessive accumulation of sediment).

Petroleum Hydrocarbon, Oil and Grease: Observation of a sheen per 18 AAC 70.020(b)(5)(A)(ii).

4.3.4 Excavation Dewatering (Discharge 004)

Similar to gravel pit water, the review of the excavation dewatering discharge characteristics resulted in the determination there is likely reasonable potential for pH, turbidity, and settleable solids to exceed, or contribute to an exceedance, of water quality criteria in the receiving water and establishes WQBELs accordingly. The adopted WQBELs for excavation dewatering are identical to gravel pit dewatering as are the monitoring requirements for TAH and TAqH upon observation of a sheen and implementation of BMPs to prevent sedimentation, erosion and thermokarsting.

4.3.5 Hydrostatic Test Water (Discharge 005)

The review of the hydrostatic test discharge characteristics resulted in the determination there is likely a reasonable potential for pH, turbidity, and settleable solids to exceed, or contribute to an exceedance, of water quality criteria in the receiving water and the permit establishes WQBELs for these parameters accordingly. The Department also determined there is reasonable potential for TAH and TAqH in existing pipelines that have previously been exposed to hydrocarbons and limits based on water quality criteria are established for existing pipelines exposed to hydrocarbons. However, for new pipelines that have not been previously exposed to hydrocarbons the Department has determined there is no reasonable potential unless the new

pipeline has been contaminated. Therefore, DEC has developed a tiered approach for TAH and TAqH such that an observation of a sheen in new oil and gas, or non-hydrocarbon carrying pipelines, triggers monitoring TAH and TAqH. For the hydrostatic testing of existing hydrocarbon carrying pipelines, monitoring of TAH and TAqH applies regardless of an observation of a sheen. Note that the Permit also establishes prohibition of chemical additions (e.g., biocides or antifreeze chemicals). However, temperature addition to water may as a means of freeze protection be allowed if BMPs are implemented to control temperature in the discharge.

Petroleum Hydrocarbon, Oil and Grease: As previously discussed, a discharge of a petroleum sheen is prohibited. For hydrostatic test water discharges from existing hydrocarbon-carrying pipelines, additional limits for TAH and TAqH are imposed. For hydrostatic testing of new hydrocarbon pipelines or pipelines that do not carry hydrocarbons (new or existing), the presence of a sheen triggers TAH and TAqH monitoring. The NOI process requires the applicant to disclose the nature of the pipeline being tested and the water source to ensure coverage under the Permit is appropriate and whether TAH and TAqH limits apply as follows:

TAH: Per 18 AAC 70.020(b)(5)(A)(iii) the petroleum hydrocarbon water quality criteria for the fresh water aquaculture water supply use shall not have a TAH concentration in the water column exceeding 10 µg/L. The analytical measurement for TAH consists of summing the individual concentrations of the monoaromatic hydrocarbons including benzene, toluene, ethylbenzene, and total xylenes (sum of m, p, and o xylene).

TAqH: Per 18 AAC 70.020(b)(5)(A)(iii) the petroleum hydrocarbon water quality criterion for the fresh water aquaculture water supply use shall not have a TAqH concentration in the water column exceeding 15 µg/L. TAqH is the sum of monoaromatic hydrocarbons (i.e., TAH) plus the sum of the individual concentrations of polynuclear aromatic hydrocarbons.

4.3.6 Mobile Spill Response (Discharge 007)

Mobile spill response discharges must be treated using an approved treatment process or system (scrubber) capable of removing free-phase and dissolved-phase hydrocarbons. Once a process or treatment system has been approved (See Section 6.1.1.2), it can be adopted into the BMP Toolkit for subsequent and broad use under the Permit. Based on the characteristics of treated mobile spill response fluids, DEC has determined that an appropriately designed and operated scrubber or treatment system, or properly implemented procedure, would not have reasonable potential to discharge dissolved petroleum hydrocarbons. Therefore, DEC establishes a prohibition of discharging petroleum hydrocarbons (Oily Sheen) and if an oily sheen is observed, the permittee must immediately stop the discharge and take corrective actions to repair or maintain the equipment as part of the BMP Plan for the discharge.

5.0 APDES LIMITATIONS AND MONITORING REQUIREMENTS

5.1 Discharge Limitations and Monitoring Requirements

Pollutants in discharges must be controlled by meeting numeric limits, narrative limitations, developing and implementing BMPs, or combinations thereof. When applying effluent limitations to commingled discharges, the more stringent effluent limitations apply to the commingled discharge. In general, all discharges, whether alone or in combination, must not make the water unfit or unsafe; cause a film, sheen, or discoloration on the water surface or adjoining shoreline; cause leaching of toxic or deleterious substance, or cause a sludge, solid, or emulsion to be deposited beneath or upon the water surface, water column, on the bottom, or adjoining shoreline.

Per 18 AAC 83.455, APDES permits require monitoring to determine compliance with effluent limits. Monitoring frequencies for compliance with limits are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor facility performance. Monitoring may also be required to gather data to evaluate future effluent limits or to monitor effluent impacts on receiving water quality. The Permittee is responsible for conducting monitoring and reporting the results to DEC as described in the Permit. The basis for effluent limit derivation is discussed in Section 4.0. The following sections summarize the effluent limits and describe the monitoring required for each discharge. Storm water requirements are discussed separately in Sections 5.3 and land disposal requirements can be found in Section 6.2.

5.1.1 Drilling Fluids and Drilling Cuttings (Discharge 001)

In the event of an inadvertent release of drilling fluids and drill cuttings, the Permittee must monitor the volume of drilling fluid lost and conduct a Static Sheen Test (EPA Method 1617) daily on the circulating drilling fluid system while the release occurs. In addition, the permittee must monitor turbidity and oil and grease visual sheen in the receiving water daily while there is a fluid loss. Lastly, BMPs must be developed and implemented to control the amount of drilling fluids discharged to the receiving water in order to comply with water quality criteria at the point of emergence or at the boundary of a 500-foot mixing zone, if authorized. Table 5 provides the effluent limits and monitoring requirements for inadvertent releases of drilling fluids and drill cuttings.

Table 5: Effluent Limits and Monitoring Requirements for Drilling Fluids and Cuttings (Discharge 001)

Parameter (Units)	Effluent Limits	Monitoring Requirements		
		Frequency	Location	Sample Type
Flow Volume ¹ (gpd)	Report	Daily	Effluent	24-hour Estimate
Turbidity (NTU)	Report	Daily	Upgradient ²	Grab
Turbidity (NTU) No Mixing Zone	5 NTU above ambient ³	Daily	Point of Emergence	Grab
Turbidity (NTU) Mixing Zone	5 NTU above ambient ⁴	Daily	Downstream	Grab
Oil and Grease Visual ⁵	No Discharge	Daily	Fluid System	Grab
Oil and Grease Visual	No Discharge	Daily	Receiving Water	Observation

Notes:

1. Monitor volume of drilling fluids lost during an inadvertent release daily while fluid loss occurs. Report maximum daily volume loss on the DMR. Report total volume lost in the end of drilling report.
2. Upstream monitoring provides ambient turbidity measurement for compliance calculations.
3. If a mixing zone is not authorized, effluent turbidity may not exceed 5 NTU above ambient conditions at the point of emergence when the ambient turbidity is 50 NTU or less. When the ambient condition is greater than 50 NTU, turbidity shall not to exceed more than a 10 % increase up to a maximum increase of 15 NTU. Turbidity shall not exceed 5 NTU over natural conditions for all lake waters. Report downgradient turbidity on DMR for information only.
4. If a mixing zone is authorized, turbidity may not exceed 5 NTU above ambient conditions, 500 feet downstream of the discharge when the ambient turbidity is 50 NTU or less. When the ambient condition is greater than 50 NTU, turbidity shall not to exceed more than a 10 % increase up to a maximum increase of 15 NTU. Turbidity shall not exceed 5 NTU over natural conditions for lake waters.
5. Static Sheen Test per EPA Method 1617.

Daily observations must be recorded in operating logs kept onsite and made available upon request by DEC. Effluent limitation monitoring results shall be reported on a monthly DMR. In addition, an End of Drilling Report must be submitted per Section 11.1.4.

5.1.2 Domestic Wastewater (Discharge 002)

Domestic wastewater discharges are typically continuous and monitored downstream of the last treatment unit prior to discharge. Wastewater must be disinfected to meet bacteria limits. If TRC is used, the effluent must be dechlorinated and monitored for TRC weekly. E. coli bacteria must be monitored quarterly to provide information for future DEC decisions. Table 6 summarizes the limits and monitoring requirements for Domestic Wastewater (Discharge 002).

Table 6: Effluent Limits and Monitoring Requirements for Domestic Wastewater (Discharge 002).

Parameter (Units)	Effluent Limits		Monitoring Requirements		
	AML	MDL	Frequency	Location	Sample Type
Flow Rate (gpd)	Report	Report	daily	Effluent	Measure
pH (SU)	6.5 - 8.5		1/week	Effluent	Grab
TRC ¹ (µg/L)	11	19	1/week	Effluent	Grab
BOD ₅ (mg/L)	30	60	1/month	Effluent	Grab
TSS (mg/L)	30	60	1/month	Effluent	Grab
FC Bacteria ^{2,3} (#/100ml)	20	40	1/month	Effluent	Grab
E. coli (#/100ml)	Report		1/quarter	Effluent	Grab
Notes:					
<ol style="list-style-type: none"> Monitoring for chlorine is not required if chlorine is not used as a disinfectant or introduced elsewhere in the treatment process. The TRC limit is measured immediately prior to discharge. The method detection limit for TRC is 100 µg/L (using approved EPA analytical methods) and will be used as the compliance level for TRC. All effluent FC bacteria average results must be reported as the geometric mean. When calculating the geometric mean, replace all results of zero, 0, with a one. The geometric mean of “n” quantities is the “nth” root of the quantities. For example the geometric mean of FC bacteria results of 10, 20, and 30 is $(10 \times 20 \times 30)^{1/3} = 18.2$. Compliance with FC bacteria MDL using multiple samples is by demonstrating the calculated 90th percentile of the samples is less than or equal to 40 FC #/100ml (See Section 10.5). 					

Applicable domestic wastewater discharge flow rates will be determined based on design flow rates evaluated during plan review by the Department (See Section 6.1.1.1). The Permittee must report effluent limits on a monthly DMR and submit them to DEC per Section 11.1.3. If multiple FC bacteria sample results are needed to comply with either the AML or MDL, the permittee should provide the individual FC bacteria sample results in the comment section of the DMR and/or a cover letter. Compliance with the MDL for FC bacteria may be determined using a calculated 90th percentile of a dataset using spreadsheet equations (e.g., “=percentile.inc[array, k]”) or hand calculation method. The method must be included in the QAPP and described in a cover letter submitted to the Department for the affected DMR.

5.1.3 Gravel Pit Dewatering (Discharge 003)

Gravel pit dewatering is anticipated to be a highly variable discharge with respect to the potential for high volumes at high velocities. Gravel Pit Dewatering discharges to freshwater must be controlled using BMPs to prevent sedimentation, erosion, or thermokarsting at the point of

discharge and beyond. As discussed in the effluent limit development (Section 4.0), if discharges are to areas where receiving water turbidity sampling is not possible (e.g., dry stream channels, snow, frozen tundra), the turbidity limit is not applicable. Table 7 summarizes the limits and monitoring requirement for Gravel Pit Dewatering (Discharge 003).

Table 7: Effluent Limits and Monitoring Requirements for Gravel Pit Dewatering (Discharge 003).

Parameter (Units)	Effluent Limits	Monitoring Requirements		
		Frequency	Location	Sample Type
Flow Volume ¹ (gpd)	Report	Daily	Effluent	Estimate or Measured
pH (SU)	6.5 - 8.5	Weekly	Effluent	Grab
SS ² (mL/L)	0.2	Weekly	Effluent	Grab
Turbidity (NTU)	Report	Weekly	Upgradient ³	Grab
Turbidity (NTU) No Mixing Zone	5 NTU above ambient ⁴	Weekly	Effluent	Grab
Turbidity (NTU) Mixing Zone	5 NTU above ambient ⁵	Weekly	Downgradient	Grab
Oil and Grease Visual ⁶	No Discharge	Daily	Effluent	Visual
TAH ⁷ (µg/L)	Report	Once per event	Effluent	Grab
TAqH ⁷ (µg/L)	Report	Once per event	Effluent	Grab

Notes:

- Record daily flow measurements, or estimates, in daily log. Report daily maximum for the month on the DMR and total monthly volumes in the comments section.
- As measured using Imhoff Cone.
- If measurement of upgradient and downgradient receiving water turbidity is not possible, then turbidity limits are not applicable. Report “Not Applicable” (N/A) for all turbidity measurements and provide comment as to why receiving water turbidity measurement is not possible.
- If a mixing zone is not authorized, effluent turbidity may not exceed 5 NTU above ambient conditions when the ambient turbidity is 50 NTU or less. When the ambient condition is greater than 50 NTU, effluent shall not to exceed more than a 10 % increase up to a maximum increase of 15 NTU. Turbidity shall not exceed 5 NTU over natural conditions for all lake waters. Report downgradient turbidity on DMR for information only.
- If a mixing zone is authorized, turbidity may not exceed 5 NTU above ambient conditions 500 feet downstream of the discharge when the ambient turbidity is 50 NTU or less. When the ambient condition is greater than 50 NTU, turbidity shall not to exceed more than a 10 % increase up to a maximum increase of 15 NTU. Report effluent turbidity on DMR for information only.
- Observed daily while discharging. Maintain daily log and provide to DEC upon request.
- An observation of a sheen triggers monitoring for TAH and TAqH. Permittee must collect one sample per event when an observation of a sheen has occurred or when required due to coordination with CSP.

Intermittent discharges from gravel pit dewatering must be estimated or measured to determine daily flow volumes and be recorded in operating logs along with daily observations for sheen. Daily logs must be kept onsite and made available upon request by DEC. Effluent limitations and monitoring results shall be reported on a monthly DMR and submitted per Section 11.1.3.

5.1.4 Excavation Dewatering (Discharge 004)

Like discharges from gravel pits, discharges from excavation dewatering is anticipated to be highly variable with respect to the potential for high volume and high velocity discharges with elevated turbidity. Excavation discharges to freshwater must be controlled using BMPs to prevent sedimentation, erosion, or thermokarsting at the point of discharge and beyond. The use

of standardized sedimentation ponds and other enhanced BMPs may be implemented to control sediment and meet turbidity limits. As with gravel pit dewatering, if discharges are to areas where receiving water turbidity sampling is not possible, the turbidity limit is not applicable. Table 8 summarizes the limits and monitoring requirement for Excavation Dewatering (Discharge 003).

Table 8: Effluent Limits and Monitoring Requirements for Excavation Dewatering (Discharge 004).

Parameter (Units)	Effluent Limits	Monitoring Requirements		
		Frequency	Location	Sample Type
Flow Volume ¹ (gpd)	Report	Daily	Effluent	Estimate or Measured
pH (SU)	6.5 - 8.5	Weekly	Effluent	Grab
SS ² (mL/L)	0.2	Weekly	Effluent	Grab
Turbidity (NTU)	Report	Weekly	Upgradient ³	Grab
Turbidity (NTU) No Mixing Zone	5 NTU above ambient ⁴	Weekly	Effluent	Grab
Turbidity (NTU) Mixing Zone	5 NTU above ambient ⁵	Weekly	Downgradient	Grab
Oil and Grease Visual ⁶	No Discharge	Daily	Effluent	Visual
TAH ⁷ (µg/L)	Report	Once per event	Effluent	Grab
TAqH ⁷ (µg/L)	Report	Once per event	Effluent	Grab

Notes:

- Record daily flow measurements, or estimates, in daily log. Report daily maximum for the month on the DMR and total monthly volumes in the comments section.
- As measured using Imhoff Cone.
- If measurement of upgradient and downgradient receiving water turbidity is not possible, then turbidity limits are not applicable. Report “Not Applicable” (N/A) for all turbidity measurements and provide comment as to why receiving water turbidity measurement is not possible.
- If a mixing zone is not authorized, effluent turbidity may not exceed 5 NTU above ambient conditions when the ambient turbidity is 50 NTU or less. When the ambient condition is greater than 50 NTU, effluent shall not to exceed more than a 10 % increase up to a maximum increase of 15 NTU. Turbidity shall not exceed 5 NTU over natural conditions for all lake waters. Report downgradient turbidity on DMR for information only.
- If a mixing zone is authorized, turbidity may not exceed 5 NTU above ambient conditions 500 feet downstream of the discharge when the ambient turbidity is 50 NTU or less. When the ambient condition is greater than 50 NTU, effluent shall not to exceed more than a 10 % increase up to a maximum increase of 15 NTU. Report effluent turbidity on DMR for information only.
- Observed daily while discharging. Maintain daily log and provide to DEC upon request.
- An observation of a sheen triggers monitoring for TAH and TAqH. Permittee must collect one sample per event when an observation of a sheen has occurred or when required due to coordination with CSP.

Intermittent discharges from gravel pit dewatering must be estimated or measured to determine daily flow volumes and be recorded in operating logs along with daily observations for sheen. Daily logs must be kept onsite and made available upon request by DEC. Effluent limits and monitoring results shall be reported on a monthly DMR and submitted per Section 11.1.3.

5.1.5 Hydrostatic Test Water (Discharge 005)

Limitations for Hydrostatic Test Water (Discharge 005) are established on a tiered approach whereby hydrocarbon monitoring is triggered by observation of a sheen and limits are imposed when the contained water is known, or is likely, to have hydrocarbons present (e.g., existing oil

pipelines or tanks). If the discharge volume is expected to be high (e.g., large pipeline construction), composite sampling requirements, and BMPs for sedimentation, erosion, and thermokarsting control are required. Table 9 lists the effluent limits for hydrostatic test water.

Table 9: Effluent Limits and Monitoring Requirements for Hydrostatic Testing Water (Discharge 005).

Parameter (Units)	Effluent Limits	Monitoring Requirements		
		Frequency	Location	Sample Type
Flow Volumes ¹ (gpd)	Report	Daily	Effluent	Estimate or Measured
pH (SU)	6.5 - 8.5	Daily	Effluent	Grab
SS ² (mL/L)	0.2	Daily	Effluent	Grab
Turbidity (NTU)	Report	Daily	Upgradient ³	Grab
Turbidity (NTU) No Mixing Zone	5 NTU above ambient ⁴	Daily	Effluent	Grab
Oil and Grease Visual ⁵	No Discharge	Daily	Effluent	Visual
TAH ⁶ (µg/L) New or Non-hydrocarbon	Report	Once per event	Effluent	Grab
TAqH ⁶ (µg/L) New or Non-hydrocarbon	Report	Once per event	Effluent	Grab
TAH ⁷ (µg/L) Existing Hydrocarbon	10	Per Discharge	Effluent	Grab or Composite
TAqH ⁷ (µg/L) Existing Hydrocarbon	15	Per Discharge	Effluent	Grab or Composite

Notes:

- Record daily flow measurements, or estimates, in daily log. Report daily maximum for the month on the DMR and total monthly volumes in the comments section.
- As measured using Imhoff Cone.
- If measurement of upgradient receiving water turbidity is not possible, then turbidity limits are not applicable. Report "Not Applicable" (N/A) for all turbidity measurements and provide comment as to why receiving water turbidity measurement is not possible.
- Effluent turbidity may not exceed 5 NTU above ambient conditions when the ambient turbidity is 50 NTU or less. When the ambient condition is greater than 50 NTU, effluent shall not to exceed more than a 10 % increase up to a maximum increase of 15 NTU. Turbidity shall not exceed 5 NTU over natural conditions for all lake waters.
- Observed daily while discharging. Maintain daily log and provide to DEC upon request.
- Water from new oil and gas or non-oil and gas infrastructure is not anticipated to have dissolved hydrocarbons. However, an observation of a sheen triggers monitoring for TAH and TAqH. Permittee must collect one representative sample per event when an observation of a sheen has occurred.
- Existing infrastructure that has known to been in contact with petroleum is anticipated to have dissolved hydrocarbons. Permittee may collect a single representative grab sample for volumes less than or equal to 500,000 gallons. Permittees discharging greater than 500,000 gallons must collect a composite sample of 8 grab samples collected at equal intervals during the discharge event as described in the QAPP.

Discharges of hydrostatic test water must be estimated or measured to determine daily flow volumes and be recorded in operating logs along with daily observations for sheen. Daily logs must be kept onsite and made available upon request by DEC. Effluent limits and monitoring results shall be reported on a monthly DMR and submitted annually (See Section 11.1.3).

5.1.6 Mobile Spill Response (Discharge 007)

Mobile spill response water requires treatment prior to discharge. The applicant must submit treatment processes or system information that demonstrates adequate removal of dissolved hydrocarbons to the Department. The system may be approved and adopted in the BMP Toolkit along with other BMPs that ensure the system is properly operated and maintained to sustain treatment performance. Once the system has been approved and adopted, the Permittee must monitor for sheen and report an estimated volume of Mobile Spill Response (Discharge 007) discharges annually. Table 10 provides the effluent limits and monitoring requirements for mobile spill response.

Table 10: Effluent Limitations and Monitoring Requirements for Mobile Spill Response (Discharge 007).

Parameter (Units)	Effluent Limits	Monitoring Requirements		
		Frequency	Location	Sample Type
Flow Volume ¹ (gpd)	Report	Daily	Effluent	Estimate
Oil and Grease Visual ²	No Discharge	Daily	Effluent	Visual
Notes:				
1. The Permittee must track discharges greater than 25 gallons and report total volumes discharged.				
2. A visual observation for sheen must be conducted daily while discharging.				

The discharge of mobile spill response is intended to be for collection and treatment of small volumes of snow, ice, or other impacted water. The permittee must monitor discharges for sheens and estimate and record discharge volumes and record in an operation log located at the discharge location. However, the permittee need only estimate and report on individual discharge volumes greater than 25 gallons. The permittee must provide the operating log to DEC upon request Effluent limits and monitoring results shall be reported on a monthly DMR and submitted per Section 11.1.3.

5.2 Additional Monitoring

Samples must be collected per a Quality Assurance Project Plan (QAPP) and analyzed using approved test methods as found in 40 CFR § 136, adopted by reference at 18 AAC 83.010(f). A Permittee has the option of taking more frequent samples than required under the Permit for evaluating monthly averages or pre-discharge effluent quality to help avoid a permit violation. However, samples collected prior to discharge may not be used for compliance sampling unless it can be adequately demonstrated to the Department that samples are representative of a sample that would otherwise be collected while discharging, and that samples are collected and analyzed using sufficient sensitive methods to comply with 40 CFR 136.

5.3 Storm Water (Discharge 006)

Storm Water authorizations are issued based on two different scenarios, construction, and operation. Although many of the requirements are similar, the Department recognizes that the mobility and temporary nature of construction projects (linear and fixed) result in unique authorization needs and timelines when compared to operation of permanent and stationary facilities. Therefore, application processes have been developed in the Permit to accommodate these uniquely different scenarios, (See construction versus operation and maintenance (Section 10.6).

5.3.1 Applicability

As discussed in Section 3.6, the Pipeline GP provides construction storm water coverage consistent with the most recent version of the CGP and operational storm water coverage consistent with the most recent version of the MSGP. Accordingly, allowable storm water discharges include:

- Storm water discharges designated by DEC as needing a storm water permit under 40 CFR §122.26(a)(1)(v) or §122.26(b)(15)(ii).
- Storm water discharges from support facilities or activities whether on-site, adjacent to, or off-site, provided it meets the other criteria set out in Section 5.3.1.1.

5.3.1.1 Limitations on Storm Water Coverage

The construction or operation of a significant pipeline may include supporting ancillary facilities and activities. Examples of common support activities and facilities for a significant pipeline include, but are not limited to, concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas, road construction, equipment wash-down areas, temporary camp areas, pump or compressor stations, and airstrips. Storm water discharges from these construction activities and operation facilities may be eligible for coverage under the Permit if following conditions are met:

- The support activity or ancillary facility is directly related to the pipeline construction or operation;
- Storm water will not be discharged to a waterbody classified on State of Alaska Impaired Waterbody 303(d) List or Tier III Waters;
- The support activity or ancillary facility is not a commercial operation serving multiple, unrelated construction projects or entities (e.g., commercial gravel pit operation or airport or an airstrip with more than 1000 departures per year);
- Based on the standard industrial code (SIC) for the industrial support facility additional storm water monitoring ELGs would not be triggered due to level of activity (i.e., commercial flights) or volume of chemicals (i.e., ammonia) as if the facility was covered under the MSGP.

The intent of limiting coverage in this manner is to keep the Pipeline GP manageable by avoiding additional monitoring requirements that would be necessary to align the Pipeline GP with the MSGP or CGP. The Pipeline GP requires only visual monitoring of storm water discharges. DEC does not anticipate that these excluded situations will be frequently encountered and if these excluded conditions are encountered then coverage could still be obtained under the CGP or MSGP.

5.3.1.2 Oil and Gas Exemption

The following provision exempts the oil and gas industry, including associated construction activities, from federal NPDES storm water permits:

“The 1987 Water Quality Act added section 402(l)(2) to the Clean Water Act (CWA) specifying that Environmental Protection Agency (EPA) and States shall not require NPDES permits for uncontaminated storm water discharges from oil and gas exploration, production, processing or treatment operations, or transmission facilities.” Section 323 of the Energy Policy Act of 2005 added a new provision to the CWA defining the terms oil and gas exploration, production,

processing, or treatment operations or transmission facilities to mean *"all field activities or operations associated with exploration, production, processing, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activity."* See 33 U.S.C. § 1362(24) (EPA, 2014).

The above referenced oil and gas industry exemption for storm water coverage exempts the oil and gas industry (including associated construction activities), from federal NPDES storm water permits, in certain instances. Facilities that have had a discharge of storm water resulting in a reportable quantity for which notification is or was required per 40 CFR 117.21, 40 CFR 302.6, or 40 CFR 110.6 or any storm water that contributes to a violation of a water quality standard [40 CFR 122.26(c)(1)(iii)], are required to immediately obtain an APDES permit for storm water for the entire operating life of the facility. To avoid potential project delays in the event of discharging a reportable quantity during construction, DEC encourages applicants to seek coverage for this discharge.

5.3.1.3 Construction Storm Water

Construction storm water coverage and development and implementation of a SWPPP is required if the accumulative disturbed land area of earthwork activity is one acre or more. This coverage applies to both large spread construction of new pipelines or excavations to expose existing pipelines for inspection or repairs. For infrastructure under construction that will ultimately become a long-term operational facility (e.g., gas treatment plant and compressor stations), there will be a transition from construction storm water coverage to operational storm water coverage when the facility is completely constructed, the site has met stabilization thresholds, and is determined to be ready for commissioning for operation. DEC anticipates applying discretion in determining when construction storm water should be terminated so long as the requirements for terminating have been met for a specific facility, pipeline section, or spread. This consideration appears to be necessary to ensure there is no gap in coverage until operation coverage is permissible.

5.3.1.4 Operational Storm Water

Once a facility has been commissioned and operation commences, the permittee may apply for long-term storm water coverage and implement a SWPPP. The operational SWPPP may be similar to the construction SWPPP but the emphasis is less on sediment and erosion control and more on ensuring storm water does not come into contact with sources of contamination. Because completed facilities will likely operate for long periods of time, the term of the authorizations for operational storm water will match the term of the Pipeline GP with the ability to administratively extend the coverage beyond the expiration date of the Permit.

5.3.1.5 Overlaps in Storm Water Coverage

One goal of providing both construction and operational storm water coverage is to help ensure there are no regulatory gaps. However, it is likely there will be some unavoidable overlapping of coverage during the transition of large spread construction to operations. DEC envisions being flexible in these situations since the difference between construction and operational SWPPP requirements are subtle and the objective of protecting waterbodies should be maintained. The permittee will be required to communicate during NOI revisions and end of construction season reporting to assist DEC in keeping track during these transitions periods.

5.3.2 Storm Water Discharges

The Permit provides holistic coverage for allowable non-contact storm water discharges related to significant pipeline construction activities and operation facilities in a manner consistent with the CGP and MSGP. The following sections describe allowable non-storm water and non-allowable storm water discharges.

5.3.2.1 Allowable Non-Storm Water Discharges

The Permit conditionally allows certain non-storm water discharges associated with construction or operation activity for significant pipelines to be discharged as storm water, provided that the non-storm water component is in compliance with the SWPPP requirements in Section 10.4 and Sections 3.5 and 3.6 of the Permit. These discharges are not authorized if they are contaminated with pollutants (e.g., petroleum sheen) or do not meet other water quality criteria. Listed below are non-storm water discharges authorized under the Permit if not contaminated:

- Discharges from fire-fighting activities;
- Fire hydrant flushing;
- Waters used to wash vehicles where detergents are not used;
- Water used for dust control;
- Potable water including uncontaminated water line flushing;
- Routine external building or pipeline wash down that does not use detergents;
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
- Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Uncontaminated, non-turbid discharges of ground water or spring water;
- Irrigation drainage and landscape watering;
- Foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated groundwater; and
- Other uncontaminated discharges meeting water quality criteria that the Department approves on a case-by-case basis.

5.3.2.2 Non-Allowable Storm Water Discharges

- Discharges that exceed water quality criteria (e.g., contaminated secondary containment water). If such a determination is made, the permittee must evaluate options for modifying the project and/or storm water control measures so that storm water discharges meet water quality criteria. If that is not possible, DEC may require the Permittee to obtain an individual permit or authorization under an alternative general permit.
- Storm water discharges associated with construction activity that are covered under an individual permit, discharges required to be authorized under an alternative general permit, and discharges from sites where any APDES permit has been or is in the process of being denied, terminated, or revoked are not authorized for coverage under the Permit.
- Storm water discharges that are comingled with contaminated non-storm water sources or other unapproved non-storm water.

- Storm water discharges to the land or ground water from a non-domestic wastewater treatment works using permanent storm water management controls are not required to obtain APDES coverage under the Permit.

5.3.3 Coverage

5.3.3.1 Construction Storm Water Permitting Scenarios

Authorization for construction storm water coverage under the Pipeline GP may be either for one permittee or co-permittees, depending on the contractual mechanisms between the owner and general contractors (GC). Three possible scenarios exist that may affect implementation of the project and the SWPPP discussed in Section 10.4.1.1.

The permittee scenarios include:

1. Owner is sole permittee. The property owner designs, develops and implements SWPPPs and maintains onsite representation to oversee day-to-day operations of the GC that affect implementation of the SWPPP.
2. The GC is sole permittee: The owner hires a GC in either a design/build capacity or as part of the conventional owner-engineer-GC contractual mechanism. In the design-build scenario, the GC has both the control over design and specifications as well as over day-to-day construction activities. In the owner-engineer-GC scenario the GC is contractually required to apply for coverage and implement the SWPPP along with day-to-day construction activities but the owner-engineer retain control over the project design and specifications.
3. Owner and GC are co-permittees: This scenario is the same as the owner-engineer-GC scenario except the owner and GC both apply for storm water coverage and implement the SWPPP jointly. The owner-engineer retains control over any changes to the site plans, while the GC is responsible for day-to-day construction activities.

These three permitting scenarios are applicable to only construction storm water coverage. Although all three scenarios are possible, DEC believes that sole owner or sole GC scenarios are the most likely situations. See Section 10.4.1 and Appendix C Definitions for more information.

5.3.3.2 Significant Pipeline Spread Construction Activities

During the initial construction of a significant pipeline, construction activities and supporting pipeline facilities are considered to be a part of a common plan of development. During the initial construction of a significant pipeline, supporting industrial facilities associated with the construction or operation of the pipeline may be eligible for construction storm water coverage under the Permit (see Section 5.3.1.3). Storm water coverage is available for allowable storm water and allowable non-storm water discharges (Section 5.3.2) which are part of the common plan of pipeline development up to the time of operation.

Pollutants that could be discharged in storm water are controlled through development and implementation of a SWPPP using appropriate BMPs from the BMP Toolkit (see Section 10.3.3) to minimize discharge of pollutants, including sediment, in storm water both during and after construction activities to help ensure protection of surface water quality during precipitation events. Appropriate controls are selected and implemented from the BMP Toolkit based on site suitability and implementation of generally accepted engineering design criteria and manufacturer specifications. Selection and implementation of BMPs could also be affected by seasonal or climate conditions. Developing a SWPPP (see Section 10.4.2), identification of potential pollutant sources, and selection of BMPs (Section 10.4.2.2), are critical components for

ensuring storm water does not come into contact with contaminants that are discharged to receiving waters.

5.3.3.3 Pipeline Maintenance Activities

Once operation of the pipeline facilities commence, all earthwork activities to support operations (e.g., regular pipeline maintenance or facility improvements) that impact one acre or more, accumulative, will require construction storm water coverage under the Permit. However, the NOI and authorization procedures will not be as onerous as large spread pipeline construction and can be implemented on an as needed basis. Regardless of size, permittees should implement their BMPs Toolkit using the appropriate site-specific sediment and erosion controls and other BMP controls to prohibit contact with potential sources of contamination and minimize the potential for pollutants to be discharged with storm water.

5.3.4 Operational Storm Water Coverage

Once the constructed pipeline commences operation, industrial facilities that are permanent and integral to the operation of the pipeline may be eligible for long-term storm water coverage as an operating facility. Upon commissioning of the facility and before commencement of operations permittees should apply for storm water coverage (consistent with the MSGP) under the Pipeline GP (Section 5.3.4). Similar to construction storm water the permittee is required to develop and implement a SWPPP for fixed operating facilities. Because of the permanent nature of these facilities, the term of operation storm water coverage matches the five-year term of the Pipeline GP.

6.0 PLAN SUBMITAL AND LAND DISPOSAL REQUIREMENTS PER 18 AAC 72

6.1 Regulatory Basis

Requirements in 18 AAC 72 - Wastewater provides the regulatory authority to include land disposals in the Permit and the ability to conduct plan reviews that may help ensure Permit limitations and WQS are attained for APDES discharges authorized by the Permit (See Section 6.1.1). Because discharges authorized under the APDES Program must follow public process procedures in 18 AAC 83 and 18 AAC 15, the plan reviews cannot establish different or new limits for discharges this would circumvent these procedures. However, the same is not true for land disposals. Plan reviews conducted for land disposals can be used to establishing conditions as necessary to protect WQS per statutory and regulatory authority. The following sections describe the plan reviews for obtaining authorization for domestic and nondomestic discharges or land disposals under the Permit.

6.1.1 Plan Submittals to Support Domestic and Nondomestic Discharges and Disposals per 18 AAC 72

Authorizations under the Permit for domestic and nondomestic discharges to waters of the U.S and disposals into or onto lands of the State may require plan submittals per the most recent version of 18 AAC 72. Submittals are often necessary to provide reasonable assurance that treatment systems are able to achieve limits as authorized by the Permit and comply with WQS. Submittals may be necessary to address unique situations or site-specific conditions that affect authorization under the Permit. Treatment chemicals, processes, or systems may also require submittals to the Department prior to adoption into the BMP Toolkit. Lastly, DEC anticipates plan submittals are likely to be required for domestic wastewater treatment systems (e.g., modularized packaged treatment systems) for construction camps associated with a large pipeline project prior to receiving authorization under the Permit.

6.1.1.1 Plan Submittals to Support Domestic Wastewater Discharges (Discharge 002)

First time applicants or existing Permittees who are constructing a domestic wastewater system (graywater, black water or commingled black and graywater) or conducting major renovations to their domestic wastewater system may be required to submit plans to the Department to evaluate attainment of limits, compliance with WQS, and applicability for coverage under the Permit.

DEC anticipates that construction of a large pipeline will require authorization of many domestic wastewater treatment systems over the course of the project that will vary in size, ramping up at the beginning and winding down at the end. To facilitate streamlined and flexible permitting, DEC recommends that permittees consider modularized treatment systems that can be approved as a prototypical design and easily relocated during the project to meet fluctuating camp capacities. Alternatively, evaluating non-prototypical designs that are individual and unique will likely require considerably more coordination in advance of the project.

If domestic wastewater is commingled with non-domestic wastewater (e.g., drinking water filter backwash) there may be POCs that were not addressed in the Permit. This commingling could result in the discharge not being applicable for coverage under the Permit because the POCs were not considered in the Permit during the public process. For this reason, WDAP encourages applicants to coordinate domestic wastewater submittals that include drinking water backwash with drinking water plan reviews concurrently. In these situations, the wastewater plan review may help determine whether coverage under the Permit is applicable given the non-domestic waste stream. Alternatively, this early coordination for plan review may lead to development of an individual permit as discussed in Section 1.4.

6.1.1.2 Plan Submittals to Support Non-Domestic Wastewater Discharges (Discharges 003, 004, 005 and 007)

In general, a plan review will not be required for non-domestic discharges covered in this Permit. However, the applicant must submit information to the Department to make this determination based on the most current version of 18 AAC 72. Information submitted for non-domestic wastewater treatment methods must demonstrate reasonable assurance that compliance with Permit limitations for discharges or disposals are attainable. If the Department has specific concerns with unique situations or site specific conditions, plan reviews may be required to provide reasonable assurance that addresses Department concerns.

Submittals for these discharges fall into two general categories, submittals to support unique situations and submittals to support a common situation that can be applied broadly as BMP tool. Plan submittals per 18 AAC 72 may only be used to support attainment of discharge limits for anticipated constituents rather than for POCs that were not previously considered during limit development and vetted through the public process. For example, it would be appropriate to review a treatment system that removes dissolved hydrocarbons from gravel pit dewatering, excavation dewatering, and hydrostatic test discharges because hydrocarbons were considered in limit development. However, conducting a plan review for a treatment system to remove glycol or biocides from hydrostatic test discharges would not be appropriate because these parameter were not evaluated in characterization and limit development. However, this is not the case if the hydrostatic test water containing glycol or biocides is disposed to land (See Section 6.2). Based on the applicable discharges and POCs, the supporting plan reviews are anticipated to include, but not be limited to, the following:

- Treatment chemical additions, processes, and systems that remove settleable solids and turbidity, and

- Treatment processes and systems that remove free-phase and/or dissolved-phase petroleum hydrocarbons.

6.2 Limitations and Monitoring Requirements for Non-Domestic Wastewater Disposals (003, 004, and 005)

The disposals covered under the Permit include Gravel Pit Dewatering, Excavation Dewatering, and Hydrostatic Test Water. The Permit does not cover land disposal of drilling fluids, domestic wastewater, storm water, or mobile spill response as these disposals are regulated differently. Land disposals of drilling fluids and drill cuttings are regulated per 18 AAC 60, disposal of mobile spill response water is regulated by 18 AAC 75.075(d), and disposal of domestic wastewater via the most recent version of 18 AAC 72.

In order to obtain coverage for the applicable land disposals (003, 004 and 005), the applicant is responsible for ensuring the disposal does not result in a discharge to waters of the U.S. To protect public and private water systems, human health, and the environment, DEC establishes narrative effluent limits for the disposal of these nondomestic wastewaters into groundwater.

Per 18 AAC 70.010(C), water quality criteria must be met in groundwater at and beyond the boundary of the treatment works. WQS sets water quality for groundwater appropriate for the use classification per 18 AAC 70.050(2). These use classifications are water supply for drinking, culinary, and food processing; agriculture including irrigation and stock watering; aquaculture; and industrial uses. Per 18 AAC 70.040, the procedure for applying groundwater criteria is to use the most stringent criteria among the various classifications; drinking water use is the most stringent. Accordingly, disposals to land and groundwater must meet drinking water criteria per the toxics manual. Per the characterization of the waste streams for gravel pit dewatering, excavation dewatering, and hydrostatic test water, drinking water criteria is not expected to be exceeded at or beyond the treatment works so long as there is no presence of hydrocarbons in the wastewater. Table 12 provides the limits and monitoring:

Table 11: Limitations and Monitoring Requirements for Disposal of Gravel Pit and Excavation Dewatering and Hydrostatic Test Water (Discharges 003-005)

Parameter (Units)	Effluent Limits	Monitoring Requirements		
		Frequency	Location	Sample Type
Flow Volume ¹ (gpd)	Report	Daily	Effluent	Estimate or Measured
Oil and Grease Visual	No Discharge	Daily	Effluent	Visual
Notes:				
1. Flow volumes may be measured or estimated and must be reported in a daily log. Report daily maximum for each month and total monthly volumes for each disposal location to DEC per Section 11.1.3..				

The limits and monitoring requirements in Table 12 are based on typical activities and may not account for unique situations. For typical situations, automatic coverage may apply. For atypical activities, a plan submittal may be required to ensure applicability for obtaining coverage for disposal under the Permit is met or that public and private water systems, human health, and the environment are adequately protected. For one example, if the disposal involves reliance on the infiltration capacity of the soil to dispose of a significant volume of wastewater, the applicant may be required to demonstrate adequate infiltration capacity exists in the seepage pit, french drain, or other subsurface disposal system. Land disposals that require special consideration due

to site-specific concerns, chemical additions (e.g., flocculants, coagulants, biocides, or antifreeze) may also require a plan submittal and site-specific conditions listed in an approval. The Department may also allow plan reviews in certain situations to support adoption of treatment chemicals, processes, and systems into the BMP Toolkit. Once approved and adopted, these BMPs help ensure compliance with the Permit (See Section 6.1.1.2). The following sections describe some of the atypical activities that may trigger additional nondomestic submittals to obtain permit coverage or additional BMPs, monitoring, or reporting requirements.

6.2.1 Unique Considerations for Gravel Pit and Excavation Dewatering (Disposals 003 and 004)

Automatic Authorizations: Gravel pit or excavation dewatering land disposals of 500,000 gpd or less that are not within 1,500 feet of known contamination and do not include the use of unapproved treatment chemicals, processes, or treatment systems are automatically covered under the Permit. This provision applies only if the permittee has an existing authorization under the Permit. If emergency excavations are required to prevent an imminent leak or harm to human health and the environment, the Department will verbally authorize disposals of more than 500,000 gallons or more with a follow-up written report from the Permittee.

BMP and Monitoring Requirements: Land disposals shall be free of an oil sheen and disposed water shall not have a film or a discoloration. The permittee must develop and implement a site-specific BMP Plan that addresses sedimentation, erosion, thermokarsting, maintaining infiltration, or limiting flows to ensure the disposal does not enter waters of the U.S. as that would require an NOI submittal for coverage as a discharge. In addition, the permittee must monitor for flow and sheen and report at least annually to DEC (See Section 11.2).

Trigger Conditions: If disposals are greater than 500,000 gpd a Notice of Disposal (NOD) must be submitted for Department review and authorization. If the disposal area is within 1,500 feet of a known contaminated site, the applicant must also coordinate with CSP prior to land disposed. Although the use of sedimentation ponds does not require Department approval, the use of flocculants or coagulants in settling ponds that were not previously approved for use the BMP Toolkit would require an NOD and submittal of the proposed treatment process for approval. Other unique situations include, but are not limited to, disposal adjacent to public or private water wells, leach fields, or other infrastructure that should be protected to ensure protection of public health and the environment.

6.2.2 Unique Considerations for Hydrostatic Test Water (Discharge 005)

Automatic Authorizations: Land disposals of hydrostatic test water of 500,000 gpd or less that is not from an existing hydrocarbon-carrying pipeline and does not include the use of unapproved treatment chemicals (e.g., biocides or antifreeze), processes, or treatment systems are automatically covered under the Permit for permittees with a current authorization. Hydrostatic test water disposal of 500,000 gpd or less from new pipelines that do not include chemical additives (e.g., biocides or antifreeze chemicals) are automatically covered under the Permit.

BMP and Monitoring Requirements: Land disposals shall be free of an oil sheen and disposed water shall not have a film or a discoloration. The permittee must develop and implement a site-specific BMP Plan that addresses sedimentation, erosion, thermokarsting, maintaining infiltration, or limiting flows to ensure the disposal does not enter waters of the U.S. that would

require an NOI submittal for coverage as a discharge. In addition, the permittee must monitor for flow and sheen and report at least annually to DEC (See Section 11.2).

Trigger Conditions: If disposals are greater than 500,000 gpd an NOD must be submitted for Department review and authorization. If the disposal area is within 1,500 feet of a known contaminated site, the applicant must also coordinate CSP. If the use of antifreeze, or other chemicals, is proposed the applicant may be required to submit plans prior to receiving authorization under the Permit. Other unique situations include, but are not limited to, disposal adjacent to public or private water wells, leach fields, or other infrastructure that should be protected to ensure protection of public health and the environment.

7.0 DISCHARGES TO RECEIVING WATERS

The Pipeline GP will authorize discharges to fresh waters of the U.S. located in the State of Alaska as defined in 18 AAC 83.990(77).

7.1 Water Quality Standards

Section 301(b)(1)(C) of the CWA requires the development of limits in APDES permits necessary to meet Alaska WQS by July 1, 1977. Per AAC 83.435, DEC establishes the limitations in APDES permits to ensure compliance with the WQS. The WQS are composed of use classifications, numeric and/or narrative water quality criteria, and an antidegradation policy. The use classification system designates the beneficial uses that each water body is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary by the State to support the beneficial use classification of each waterbody. The antidegradation policy ensures that the beneficial uses and existing water quality are maintained.

The freshwater receiving waters are classified as Classes (1)(A), (B), and (C) for use in drinking, culinary and food processing, agriculture, aquaculture, and industrial water supply; contact and secondary recreation; and growth and propagation of fish, shellfish, other aquatic life, and wildlife. Per 18 AAC 70.050, freshwater in the State of Alaska is designated for all use classes unless the waterbody has been reclassified under 18 AAC 70.230 as listed under 18 AAC 70.230(e). Some waterbodies in Alaska can also have site-specific water quality criterion per 18 AAC 70.235, such as those listed under 18 AAC 70.236(b).

The Department acknowledges that several freshwater streams in the state have been reclassified as listed under 18 AAC 70.230(e), or have site specific water quality criteria defined in 18 AAC 70.236(b). However, the limits and conditions for discharges contained in the Pipeline GP are based on protecting all freshwater and groundwater use classes by applying the most stringent criteria of all the use classes to waterbodies uniformly. Should an applicant seek coverage for discharges to reclassified waterbodies, the applicant may use the conservatively protective limits for all waterbodies contained in the Pipeline GP, or submit an application for an individual permit based on reclassified uses defined in 18 AAC 70.230(e).

7.2 Mixing Zones

During permit development, the Department met with several potential applicants to evaluate wastewater discharges associated with pipeline construction, operation, and maintenance activities. Three discharges have been identified to likely exceed water quality criteria for turbidity and residues at the point of discharge: Drilling Fluids and Drill Cuttings (Discharge 001), Gravel Pit Dewatering (Discharge 003), and Excavation Dewatering (Discharge 004). The following sections discuss the authorization of mixing zones to freshwater streams with sufficient dilution capacity to meet water quality criteria at the boundary of the mixing zone.

Drilling Fluids and Drill Cuttings (Discharge 001): HDD is a process that allows for a trenchless pathway under a sensitive or otherwise difficult to cross physical feature such as a stream, wetland, or road. While HDD is considered to be less intrusive than traditional open-cut trenching (where habitats sustain direct soil disturbance), an inadvertent release of drilling fluids to a waterbody would be considered a discharge applicable to the Permit. Inadvertent releases arise when drilling fluids are forced through the subsurface substrate to the surface and a discharge of drilling fluids and drill cuttings (native soils) daylights. Typically these releases occur in shallow, highly permeable substrate during the entrance and exit phases of drilling where overburden pressure may be insufficient to withstand the pressure of circulating fluids.

If an inadvertent release occurs in a stream, the resulting discharge is anticipated to exceed, or contribute to an exceedance, of water quality criteria for turbidity and residues. Therefore, a mixing zone appears to be necessary as a contingency to inadvertent releases from HDD at streams crossings. If a mixing zone is not requested or cannot be authorized for a specific location, then water quality criteria must be met at the point of emergence of the fluids in the streambed. In the event of an inadvertent release, implementation of BMPs are expected to control or reduce the fluid loss to comply with Permit conditions.

Gravel Pit Dewatering (Discharge 003): During construction or operation of a pipeline, gravel pits may require dewatering to gain access to the gravel due to precipitation or ground water infiltration. The Department has identified turbidity and residues as POC's which have the potential to exceed water quality criteria at the point of discharge. Similar to HDD, a mixing zone may be authorized for gravel pit dewatering discharges to meet WQS for the duration of the discharge. While Gravel Pit Dewatering may require the discharge of large volumes of water, the effects of sedimentation, erosion, and thermokarsting in the receiving water can be mitigated by implementation of BMPs including, but not limited to, establishing multiple outfall locations or varying pump sizes, hose diameters, and diffusers.

Excavation Dewatering (Discharge 004): During construction or maintenance projects, excavations to access buried pipe or other adjunct facilities may require temporary dewatering due to precipitation events or ground water infiltration. Excavation dewatering is preferentially discharged to locations that do not have an open water surface (e.g., wetlands, tundra, dry river channels, frozen conditions) but are considered waters of the U.S. Vegetation or snowpack naturally removes sediment prior to the discharge entering a receiving water, if ever. In the event that such a location is unavailable or discharges to a waterbody are unavoidable, settling ponds are often used to remove settleable sediment prior to discharge. Still, settling ponds or other methods may not be able to achieve water quality criteria for turbidity and residues prior to discharge. Accordingly, similar to Drilling Fluids and Drill Cuttings (Discharge 001) and Gravel Pit Dewatering (Discharge 003), a mixing zone may be authorized for Excavation Dewatering discharges to meet water quality criteria over the short duration of the discharge event.

Mixing Zone Size Determination: The Department reviewed dewatering discharges from various activities and found that similar pretreatment practices and BMPs are used for excavation, gravel pit, and placer mine activities (i.e., settling ponds, coagulants, flocculants) and all are able to achieve similar effluent quality prior to discharge. The Department uses data from Excavation Dewatering discharges from APSC under AK0050563, extensive data from placer mining dewatering operations, and mixing zones authorized in other states to evaluate a mixing zone size.

The Department conducted a review of 154 mixing zones for turbidity from placer mines operating between 1997 and 2012. For discharges up to 200 gallons per minute (gpm) to receiving waters of varying sizes and ambient turbidity conditions, 77 percent (%) of the receiving waters provided adequate dilution to support greater than 25 NTUs in the discharge, 42% supported greater than 50 NTU's, and 21% supported greater than 100 NTUs. The Department also evaluated perceived worse-case historic discharges from excavation dewatering completed by APSC along TAPS. Based on available DMR data, field reports, and institutional knowledge, the authorized 500-foot mixing appears to be an appropriate size that can consistently achieve turbidity water quality criteria when using settling ponds and other BMPs, even in perceived 'worse-case' scenarios. Lastly, a comparison was made with an authorized mixing zone associated with an HDD project in the State of Washington. This mixing authorization was 600 feet, which compares well with the 500-foot mixing zone size in the Permit.

Mixing Zone Application and Review Process: The Permit is intended to cover various locations throughout the state; exact locations of potential discharges are not known until applications are received. Therefore, the Department uses empirical data from other statewide permits with mixing zones to inform application procedures. The application process requires a NOI, where an applicant provides any requested receiving water and discharge data in the mixing zone section of the form. The NOI is not a mixing zone application, per se. The information in the NOI is used to inform the Department if the request for a mixing zone is consistent with the mixing zone evaluation conducted during permit development. If consistent, then a mixing zone authorization may be approved.

The mixing zone section of the NOI form requires identification of any site-specific anadromous fish spawning or resident fish spawning redds for Arctic grayling, northern pike, rainbow trout, lake trout, brook trout, cutthroat trout, whitefish, sheefish, Arctic char (Dolly Varden) burbot, and landlocked coho, king, and sockeye salmon. This information must demonstrate mixing zones requested do not overlap with any of these spawning habitats [18 AAC 70.255(h)] or could have adverse impacts on these rearing and spawning habitats [18 AAC 70.250(a)(2)]. This demonstration may be achieved by consulting a variety of resources such as the *Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes* and its associated *Atlas* or by requesting a site-specific determination through Alaska Department of Fish and Game (DF&G).

Mixing zone requests require information that demonstrates compliance can be consistently achieved at the boundary of the mixing zone, regardless of seasonal or annual fluctuations. Mixing Zone Attachment (Permit Attachment 1- NOI, Section 10.6) requires an applicant to demonstrate that a waterbody has sufficient assimilative capacity to meet water quality criteria at the boundary of a 500-foot mixing zone. Supporting data includes an estimate of ambient turbidity at the time of discharge, discharge flow rate, discharge volume, stream depth, width, and slope at the discharge location, and the low stream flow estimate using the seven-day low stream flow data based on a 10-year return period (7Q10) per 18 AAC 70.255(f)(2). If a discharge occurs seasonally, the 7Q10 can be estimated for the appropriate seasonal period. Low stream flow data could be obtained from applicant field investigations, gauge stations, or other method. Where 7Q10 or gauge data is unavailable, 18 AAC 70.255(f)(2) also includes references to acceptable alternative methods used to estimate the 7Q10.

Mixing zones may only be authorized by the Department after a review of all information demonstrates conditions for obtaining a mixing zone have been met. In locations where there is

inadequate dilution for the discharge to meet water quality criteria or the waterbody is listed as impaired for sediment or turbidity in the Alaska’s Integrated Water Quality Monitoring and Assessment Report (dec.alaska.gov/water/wqsar/index.htm), a mixing zone may not be authorized under the Pipeline GP. The Mixing Zone Analysis Checklist (Appendix C) outlines a comprehensive list of criteria that must be demonstrated when the Department analyzes and considers an applicant’s request for a mixing zone. These criteria include treatment technology, appropriateness, and size of the mixing zone, threatened and endangered species, human consumption (drinking water intakes), spawning areas, human health, aquatic life, and wildlife. All criteria must be met in order to authorize a mixing zone [18 AAC 70.240 –270 (2003)]. The following sections summarize this analysis.

7.2.1 Size

Per 18 AAC 70.255, the Department has determined the mixing zone sizes for the discharge of Drilling Fluids and Drill Cuttings (Discharge 001), Gravel Pit Dewatering (Discharge 003), and Excavation Dewatering (Discharge 004) (as described above) are appropriately sized based on extensive data collected from similar discharge activities in similar receiving waterbodies. Mixing zone applications accept stream flow data consistent with 18 AAC 70.255(f) to calculate dilution capacity and to determine that a stream has sufficient assimilative capacity for discharges from these activities to meet water quality criteria at the boundary of the mixing zone (Section 7.2). Based on the nature of pollutants anticipated to exceed water quality criteria within the boundary of the mixing zone (turbidity and residues), no lethality to passing organisms is expected. Lastly, inadvertent releases of any drilling fluids discharged do not contain concentrations of pollutants expected to be carcinogenic or pose a risk of bioaccumulation or bioconcentration. Aquatic life and human health are protected and the mixing zone is as small as practicable (see Section 7.2.4 and 7.2.6).

7.2.2 Treatment Technology

Per 18 AAC 70.240(a)(3), the Department must determine if “an effluent or substance will be treated to remove, reduce, and disperse pollutants, using methods found by the Department to be the most effective and technologically and economically feasible, consistent with the highest statutory and regulatory treatment requirements,” before authorizing a mixing zone.

Applicable “highest statutory and regulatory requirements” are defined in 18 AAC 70.990(30) [2003]. Accordingly, there are three parts to the definition, which are:

- Any federal TBEL identified in 40 CFR 125.3 and 40 CFR 122.29, as amended through August 15, 1997, adopted by reference at 18 AAC 83.010;
- Minimum treatment standards in 18 AAC 72.040; and
- Any treatment requirement imposed under another state law that is more stringent than the requirement of this chapter.

The first part of the definition includes all applicable federal technology-based ELGs. There are no applicable ELGs for Drilling Fluids and Drill Cuttings or Excavation Dewatering as discussed in Section 4.2.1. Gravel Pit Dewatering does have applicable ELG’s fore pH based on BPT per 40 CFR 436 Subpart C – Construction Sand and Gravel Subcategory (Section 4.2.1). However, the Permit adopts the WQBEL for pH, which is more stringent.

The second part of the definition from the WQS appears to be in error, as 18 AAC 72.040 considers discharge of sewage to sewers and not minimum treatment. The correct reference

appears to be 18 AAC 72.050, minimum treatment for domestic wastewater. Although discharges of domestic wastewater authorized under the Permit will receive minimum treatment, this part of the definition does not apply because the Permit does not include mixing zones for domestic wastewater.

The third part of the definition includes any treatment required by state law that is more stringent than 18 AAC 70. Other regulations beyond 18 AAC 70 that may apply to this permitting action include 18 AAC 15, 18 AAC 72 and 18 AAC 83. The Permit imposes conditions, restrictions, and BMP requirements which are consistent with these regulations. In addition, neither the regulations in 18 AAC 15 nor another state legal requirement that the Department is aware of impose more stringent treatment requirements than 18 AAC 70 besides those in 18 AAC 72. Domestic and nondomestic wastewater treatment systems must comply with the most recent version of 18 AAC 72, including chemical or mechanical treatment mechanisms (e.g., flocculants, coagulants, and filtration systems) used for Excavation Dewatering and Gravel Pit Dewatering to ensure methods are appropriate and effective as pollutant controls.

7.2.3 Existing Use

Per 18 AAC 70.245, the mixing zones have been appropriately sized to fully maintain and protect existing receiving water uses. In order to ensure the discharge neither partially nor completely eliminates existing uses of the waterbody as a fishery, the individual authorizations may impose time-area prohibitions of discharges at a time or location that could preclude or limit established processing activities or commercial, sport, personal use, or subsistence fish or shellfish harvesting. The applicant is required to inform the Department of any time-area restrictions imposed by other agencies (i.e., DF&G) during the NOI process. Discharge and receiving water monitoring upgradient and at the boundary of the mixing zone is required to ensure the biological integrity of waterbody is maintained and fully protected under the terms of the Permit per 18 AAC 70.245 (a)(1) and (a)(2).

7.2.4 Human Consumption

Per 18 AAC 70.250(b)(2) and (b)(3), the subject pollutants will not produce objectionable color, taste, or odor in aquatic resources harvested for human consumption, nor will the discharge preclude or limit established processing activities or commercial, sport, personal use, or subsistence fish and shellfish harvesting. Discharges from Excavation Dewatering, Gravel Pit Dewatering, and inadvertent releases from Drilling Fluids and Drill Cuttings do not contain pollutants that are expected to produce objectionable color, taste, or odor in aquatic resources. See Section 7.2.3 for time-area prohibitions to protect fishery uses.

7.2.5 Spawning Areas

Per 18 AAC 70.255(h), a mixing zone is not authorized in an area of anadromous fish spawning or resident fish spawning redds for Arctic grayling, northern pike, rainbow trout, brook trout, cutthroat trout, whitefish, sheefish, Arctic char (Dolly Varden), burbot, and landlocked Coho, king, and sockeye salmon. Applicants must identify and document resident and anadromous fish water bodies relative to any mixing zone location requests and provide information about any juvenile or spawning habitat within those areas, as well as fish passage, migratory corridors, timing restrictions imposed by other agencies, and other receiving water characteristics. DF&G involvement is recommended to ensure accuracy of the mixing zone application information provided. All mixing zones are protective for the fish and other aquatic life and receiving authorization for a mixing zone from the Department. A mixing zone may not be authorized in a known spawning area for anadromous fish or resident fish spawning redds.

7.2.6 Human Health

Per 18 AAC 70.250 and 18 AAC 70.255, the mixing zone shall be protective of human health and will not result in pollutants discharged at levels that will bioaccumulate, bioconcentrate, or persist above natural levels in sediments, water, or biota or at levels that otherwise will create a public health hazard through encroachment on a water supply or contact recreation uses. As discussed in Section 7.2.4, pollutants discharged will not produce objectionable color, taste, or odor in aquatic resources harvested for human consumption. Furthermore, due to the time-area restriction around fishery lease areas, the pollutants discharged will not preclude or limit established processing activities of commercial, sport, personal-use, or subsistence fish and shellfish harvesting. An analysis of the wastewater characteristics of inadvertent releases from Drilling Fluids and Drill Cuttings, Gravel Pit Dewatering, and Excavation Dewatering indicate no direct or indirect human health concerns from discharges and established BMP controls, limitations, and monitoring are protective of human health.

7.2.7 Aquatic Life and Wild Life

Per 18 AAC 70.250(a)(2)(A-C), 18 AAC 70.250(b)(1), 18 AAC 70.255(g)(1) and (2), and 18 AAC 70.255(b)(1) and (2), pollutants for which the mixing zone will be authorized will not result in concentrations outside of the mixing zone that are undesirable, present a nuisance to aquatic life, permanent or irreparable displacement of indigenous organisms, or a reduction in fish or shellfish population levels. The temporary exceedance in turbidity and residues will not result in lethality to aquatic life or wild life. Therefore, no acute mixing zones are necessary (18 AAC 70.255). The mixing zones are determined using critical effluent and receiving water conditions and are as small as practicable. Receiving waters which do not have sufficient assimilative capacity and are unable to meet water quality criteria at the boundary of the mixing zone will not be authorized. Discharges from Drilling Fluids and Drill Cuttings, Gravel Pit Dewatering, and Excavation Dewatering will not include pollutants that pose risk to aquatic life and wildlife outside the boundary of the mixing zone. Department concludes authorized mixing zones are protective of aquatic life and wildlife.

7.2.8 Endangered Species

Per 18 AAC 70.250(a)(2)(D), The Department may not authorize a mixing zone that will cause an adverse effect on threatened or endangered species. Due to the nature of discharge, limitations, and controls imposed by the Permit, authorized mixing zones are unlikely to cause adverse effects to threatened or endangered species (Section 12.1). The NOI requires the permittee to inform the Department if any threatened or endangered species may be within the area of discharge or of any determinations or restrictions imposed by National Marine Fisheries Service (NFMS) and the U.S. Fish and Wildlife Service (FWS) at the project area. In the event threatened or endangered species are in the vicinity, the Department retains the ability to consult with the NFMS and the FWS and include additional site-specific requirements in the authorization (i.e. time-area restrictions) or to deny the mixing zone.

8.0 ANTIBACKSLIDING

Per 18 AAC 83.480(a), except as provided in (b) of the section, “when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit, unless the

circumstances on which the previous permit was based have materially and substantially changes since the permit was issued, and the change in circumstances would constitute cause for permit modification or revocation and reissuance under 18 AAC 83.135.”

Effluent limitations may be relaxed as allowed under 18 AAC 83.480, CWA §402(o) and CWA §303(d)(4). 18 AAC 83.480(b) allows relaxed limitations in renewed, reissued, or modified permits when there have been material and substantial alterations or additions to the permitted facility that justify the relaxation or if the Department determines that technical mistakes were made. CWA §303(d)(4)(A) states that, for waterbodies where the water quality does not meet applicable WQS, effluent limitations may be revised under two conditions; the revised effluent limitation must ensure the attainment of the WQS (based on the waterbody TMDL or the waste load allocation) or the designated use which is not being attained is removed in accordance with the WQS regulations.

CWA §303(d)(4)(B) states that, for waterbodies where the water quality meets or exceeds the level necessary to support the waterbody's designated uses, WQBELs may be revised as long as the revision is consistent with the State's antidegradation policy. Even if the requirements of CWA §303(d)(4) or 18 AAC 83.480(b) are satisfied, 18 AAC 83.480(c) prohibits relaxed limits that would result in violations of WQS or ELGs.

18 AAC 83.480(b) only applies to effluent limitations established on the basis of CWA Section 402(a)(1)(B), and modification of such limitations based on effluent guidelines that were issued under CWA Section 304(b).

Accordingly, 18 AAC 83.480(b) applies to the relaxation previously established case-by-case TBELs developed using BPJ. To determine if the provisions of 18 AAC 83.480(b) can be applied, the regulation provides five regulatory criteria (18 AAC 83.480[b][1-5]) DEC must evaluate. This permitting action does not propose the relaxation of any case-by-case TBELs developed by BPJ; therefore, there is not a need to conduct an analysis under this regulation.

The Pipeline GP will supersede the existing APSC Permit, AK0050563. Therefore, an antibacksliding analysis was conducted by comparing the respective requirements in the Permit and APSC Permit. The Pipeline GP will eliminate AK0050563 APSC Permit condition that required mandatory analytical sampling for O&G and total petroleum hydrocarbon when excavation dewatering is occurring within one-half mile of a pump station or other industrial facility, which stores, dispenses, or transports petroleum. The APSC Permit did not include a clear basis for the one-half mile trigger. Based on a review of historical DMR data collected under the APSC Permit, there is no supporting evidence of a nexus between pump stations/industrial facilities that store, dispense, or transport petroleum and contaminated water in the excavation dewatering activities. Therefore, the Department will not require mandatory analytical sampling when excavation dewatering occurs within one-half mile of a pump station or other industrial facility that stores, dispenses, or transports petroleum. However, the Pipeline GP will require the Permittee to consult with the CSP when excavation dewatering occurs within 1,500 feet of a contaminated site or plume, or when unknown contamination is encountered.

The CSP has authority to regulate activities near a contaminated site and may impose requirements outside the Permit. The CSP and WDAP will coordinate when an excavation dewatering discharge near a contaminated groundwater source will require monitoring for TAH and TAqH under the Permit. The requirement to monitor TAH and TAqH will be included as a

condition in the authorization issued by the Department. The Department has determined that this approach is as stringent and less arbitrary.

The Pipeline GP will eliminate AK0050563 APSC Permit condition for hydrostatic dewatering that requires one analytical sample of water be collect per 1,000-feet and analyzed for O&G and total hydrocarbons. Instead, the Pipeline GP will require composite grab sampling to be performed when hydrostatic test water greater than 500,000 gallons is to be discharged under the Permit. For discharges equal to or less than 500,000 gallons, the permittee must collect one grab sample that is representative of the volume discharged. The Department has determined that this requirement is less arbitrary, supported by standard wastewater procedures to characterize a waste, and provides adequate protection of human health and the environment.

DEC reviewed data and compliance history for discharges of excavation dewatering from the existing APSC permit. Based on a long history of meeting water quality criteria and sustained permit compliance, DEC establishes a weekly monitoring frequency rather than daily as required in the existing APSC permit. The weekly frequency will not result in violations of WQS, including the Antidegradation Policy.

Except for less frequent monitoring for excavation dewatering discharges, the Department finds the reissued Permit effluent limitations, standards, and conditions are at least as stringent as the APSC Permit.

9.0 ANTIDegradation

Section 303(d)(4) of the CWA states that, for waterbodies where the water quality meets or exceeds the level necessary to support the designated uses of the waterbody, WQBELs may be revised as long as the revision is consistent with the State antidegradation policy.

The antidegradation policy in the WQS (found at 18 AAC 70.015) states that the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected. This section of the fact sheet analyzes and provides rationale for the Department's decision to issue the Permit with respect to the antidegradation policy.

The Department's approach in implementing the antidegradation policy, found in 18 AAC 70.015, is based on the requirements in 18 AAC 70 and the *Policy and Procedure Guidance for Interim Antidegradation Implementation Methods, July 14, 2010 (Interim Methods)*. Using these requirements and policies, the Department determines whether a waterbody, or portion of a waterbody, is classified as Tier 1, Tier 2, or Tier 3 where a higher numbered tier indicates a greater level of water quality protection.

Wastewater discharged under the Permit is subject to a Tier 2 antidegradation analysis, as detailed in the *Interim Methods*. The State antidegradation policy in 18 AAC 70.015(a)(2) states that if the quality of water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water (Tier 2), that quality must be maintained and protected unless the Department finds that the five specific requirements of the antidegradation policy at 18 AAC 70.015(a)(2)(A)-(E) are satisfied. These five findings are:

- 1. 18 AAC 70.015(a)(2)(A):** Allowing lower water quality is necessary to accommodate important economic or social development in the area where the water is located.

Based on the evaluation required per 18 AAC 70.015(a)(2)(D), the Department has determined that the most reasonable and effective pollution prevention, control, and treatment methods are being used and the lowering of water quality is necessary.

The 2013 Alaska Economic Performance Report written by the Department of Commerce, Community, and Economic Development indicates that the Alaskan oil and gas industry continues to be the largest source of state revenue while creating some of the highest paying jobs in the State (DCCED, 2013). Over 93 percent of the state's unrestricted revenue originates from taxes and royalties affiliated with the petroleum industry. Alaska's mineral industry has increased in production and between 2001 and 2013 and the mining industry has doubled its employment (DCCED 2013). The Alaska Economic Performance Report included the following socio-economic information on the oil and gas industry and the mining industry:

Alaska's economy depends heavily on revenues related to oil and gas production and government spending resulting from those revenues. Oil and gas lease sales generate income to state government through royalties (including bonuses, rents, and interest), production taxes, petroleum corporate income taxes, and petroleum property taxes. Total oil revenue totaled \$7.4 billion in fiscal year (FY) 2013.

- Unrestricted oil revenue comprised approximately 92 % of the state's general fund unrestricted revenue in FY2013.
- The "Primary Companies" employed 4,700 Alaska residents who earned \$780 million in wages.
- \$5 billion was spent on Alaska vendors resulting in 51 thousand jobs and \$3.45 billion in wages. Alaska's oil & gas industry is responsible for approximately 1/3 of wages and salary jobs and more than \$6.43 billion in wages.
- Mining is a strong source of revenue for both local and state governments. In 2013, mines paid \$17 million to municipal governments and approximately \$150 million was paid to the State of Alaska in mining royalties, taxes, fees, and rents. \$144 million was paid in royalty sharing payment to Alaska Native corporations.
- Metal ore mining jobs total 4,049 and jobs are expected to increase over the 12 years.

According to the State Pipelines Coordinator's Office 2013 Annual Report, the state collected \$5.59 million from the state right-of-way leases for pipelines (SPCO, 2014). APSC is the largest pipeline in the state that maintains and operates the TAPS pipeline and has approximately 800 employees (APSC, 2011).

The Drift River Terminal is of critical importance to ship crude oil to local, as well as markets abroad and is an essential Hilcorp asset that assures oil can be delivered to any market should the local refinery cease to be an option. Hilcorp has invested more than \$300 million dollars in Alaska's oil and gas infrastructure concentrating on efficiency and reliability in addition to exploration and production. This has resulted in more than 300 highly paid, full time employees, and, as well as other oil and gas related support companies, contributed hundreds of millions of dollars to the economy of the Kenai Peninsula, and Cook Inlet at large.

The AK LNG pipeline will have off-take points that will allow the communities along the route an opportunity to have natural gas delivered for commercial, industrial, and residential heating needs and electric generation. The AK LNG Project will span from the North Slope to local markets across Alaska, and finally to a new LNG plant in Nikiski, Alaska for distribution to foreign export markets.

- The Alaska LNG Project will create approximately 15,000 jobs during the construction phase, and an estimated 1,000 full-time jobs during operation. The influx of construction

worker during the project will also provide indirect economic benefits (Alaska LNG, 2014).

- In Nikiski, the estimated peak construction workforce for the plant could exceed 5,000 workers and 1,500 workers for the marine terminal during the seven-year construction period. Once operating, the LNG Plant and marine terminal estimate needing 350 full-time personnel (Alaska LNG, 2014).

The proposed ASAP project will provide up to 500 million standard cubic feet per day of utility-grade natural gas to in-state markets. The utility-grade natural gas will be accessible to communities adjacent to the line if those communities develop the required infrastructure.

- During the construction phase of the pipeline, it is estimated that each of the 13 stationary camps will house between 400 and 1,000 people. The Gas Compression Facility will have approximately 800 construction workers (AGDC, 2014).

The Donlin Gold natural gas pipeline will provide a long-term stable supply of natural gas to meet the energy needs of the proposed Donlin Gold mine. The use of natural gas is the most practicable, cost-effective, and environmentally acceptable means of providing the long-term energy needs.

- During the construction phase of the pipeline, there will be a need for approximately 650 personnel. The O&M phase of the natural gas pipeline will require a minimum of four full-time personnel (Donlin, 2013).

The necessary lowering of water quality will accommodate important economic or social development in the State where discharges may occur to freshwater.

The Department finds that the requirements of this part of the antidegradation analysis have been met

- 2. 18 AAC 70.015 (a)(2)(B):** Except as allowed under this subsection, reducing water quality will not violate the applicable criteria of 18 AAC 70.020 or 18 AAC 70.235 or the whole effluent toxicity limit in 18 AAC 70.030.

The Permit limits and conditions ensure water quality criteria are not violated in the receiving waterbodies. The Permit includes limits for each wastewater stream that are based on meeting water quality criteria at the point of discharge or at the boundary of an authorized mixing zone.

The Department has identified three discharges that have the potential to exceed the water quality criteria for turbidity and residues at the point of discharge. Drilling Fluids and Drilling Cuttings (Discharge 001), Gravel Pit Dewatering (Discharge 003), and Excavation Dewatering (Discharge 004) can be authorized to have a 500-foot mixing zone for the turbidity and residues. All applicable water quality criteria, regardless of monitoring frequency reductions, will be met at the boundary of the authorized mixing zone. If a mixing zone is not request or approved, the discharge must meet water quality criteria at the point of discharge along with all other water quality parameters authorized to be discharged by the Permit.

The Department will not be establishing a site-specific water quality criteria for waterbodies in the Pipeline GP. Therefore, the discharges under the Permit will not violate 18 AAC 70.235. Similarly, there are no limits established for Whole Effluent Toxicity (WET) and discharges will not violate 18 AAC 70.030.

The Department finds that the requirements of this part of the antidegradation analysis have been met.

3. **18 AAC 70.015 (a)(2)(C):** The resulting water quality will be adequate to fully protect existing uses of the water

Water quality criteria are developed such that attaining criteria protects the uses of the waterbody. All limits in the Permit are WQBELs that require the discharge to meet water quality criteria at the point of discharge or at the boundary of an authorized mixing zone. The authorized mixing zones are appropriately sized and the limits established in the Permit are protective of WQS. Because water quality criteria are met in all cases, the existing uses will also be fully protected for the waterbody as a whole. The Department concludes that the resulting water quality will be adequate to fully protect existing uses.

The Department finds and that the requirements of this part of the antidegradation analysis have been met.

4. **18 AAC 70.015(a)(2)(D):** The methods of pollution prevention, control, and treatment found by the Department to be most effective and reasonable will be applied to all wastes and other substances to be discharged.

The Permit using multi-tiered approach of pollution source control, treatment, and a comprehensive and flexible BMP Toolkit approach to help ensure permit limits and water quality criteria are not exceeded either at the point of discharge or at the boundary of a 500-foot mixing zone. The approach varies per discharge characteristics and the practicality of implementing methods. For example, the discharge of drilling fluids and drill cuttings is contingent upon an inadvertent release of drilling fluids that is unavoidable and unpredictable. The most effective and reasonable methods include limiting pollution at the source by prohibiting additives and/or imposing SPP thresholds that trigger the development and implementation of DFPs. The DFP provides a comprehensive list of proposed chemical additives that could be used and discharged to the environment if a release occurs. The DFP also establishes procedures to ensure that the SPP of the drilling fluid does not exceed the trigger values established for the obtaining approval under the Permit. Because there is no practicable means to treat inadvertent releases of drilling fluids prior to discharge, BMPs and mitigation measures are required to help ensure water quality criteria are met at the boundary of the mixing zone.

Domestic wastewater must be treated to attain minimum treatment (See finding 5) as well as water quality criteria at the point of discharge. A plan submittal may be required to ensure these treatment objectives are attainable by the proposed treatment system.

For gravel pit and excavation dewatering discharges mixing zones are also allowed and typical sedimentation pond treatment is considered a part of the standard BMP Toolkit. Enhanced treatment using coagulants and flocculants can be adopted in the Toolkit upon review and approval by DEC. In a similar manner, discharges that could contain petroleum hydrocarbons (e.g., hydrostatic test water and mobile spill response) can be treated using BMP Toolkit treatment processes or system that have been approved to meet stringent WQBELs or water quality criteria. The use of appropriate treatment BMPs ensures compliance with water quality criteria at the boundary of an authorized mixing zone or at the point of discharge if no mixing zone is requested or approved.

The combinations available to the permittee to conduct source control (pollution prevention), BMPs to limit impacts, and adoption of treatment systems in the BMP Toolkit provide a flexible and effective means to control pollutants in discharges under the Permit.

The Department finds and that the requirements of this part of the antidegradation analysis have been met.

5. **18 AAC 70.015(a)(2)(E):** All wastes and other substances discharged will be treated and controlled to achieve (i) for new and existing point sources, the highest statutory and regulatory requirements and (ii) for nonpoint sources, all cost-effective and reasonable best management practices.

The “highest statutory and regulatory requirements” as defined in 18 AAC 70.990(30) includes the following three parts:

- o Any federal TBEL identified in 40 CFR § 125.3 and 40 CFR § 122.29, as amended through August 15, 1997, adopted by reference at 18 AAC 83.010;
- o Minimum treatment standards in 18 AAC 72.040; and
- o Any treatment requirement imposed under another state law that is more stringent than a requirement of this chapter.

The first part of the definition refers to ELG’s. There was one TBEL based on an ELG for gravel pit dewatering per 40 CFR §436 Subpart C – Construction Sand and Gravel Subcategory. The ELG requires discharges shall not be less than a pH of 6 or greater than a pH of 9. The WQBEL for pH is more stringent, not less than 6.5 or greater than 8.5, and is adopted as the more stringent limit in the Permit. All other limits in the Permit, except BOD₅ and TSS for domestic wastewater, are also based on WQBELs. The Department concludes that the discharge is being treated to the highest statutory and regulatory requirements.

The second part of the definition appears to be in error, as 18 AAC 72.040 considers discharge of sewage to sewers and not minimum treatment. The correct reference appears to be 18 AAC 72.050, minimum treatment, which deals with domestic wastewater (Discharge 002). The Permit requires domestic wastewater discharges to waters of the U.S. to meet minimum treatment requirements (i.e., secondary treatment). The Permit only authorizes discharges of domestic wastewater that comply with minimum treatment requirements per the most recent version of 18 AAC 72.

The third part of the regulation includes any more stringent treatment required by State law that is more stringent than 18 AAC 70. Other regulations beyond 18 AAC 70 that directly apply to the Permit include 18 AAC 72 and 18 AAC 15. The paragraph above speaks directly to 18 AAC 72 for domestic wastewater discharges. Besides those in 18 AAC 72, neither the regulations in 18 AAC 15 or another State law that the Department is aware of impose more stringent treatment requirements than 18 AAC 70.

The Department finds and that the requirements of this part of the antidegradation analysis have been met.

10.0 OTHER PERMIT CONDITIONS

10.1 Standard Permit Provisions

Appendix A of the Permit contains standard regulatory language that must be included in all APDES permits. These requirements are based on the regulations and cannot be challenged in the context of an individual APDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, signatory authority, and other general requirements.

10.2 Drilling Fluid Plans

The Permit requires the development and implementation of a DFP. The basis for the DFP requirement is Sections 308 and 403(c) of the CWA. The DFP requirement is also based upon the Pollution Prevention Act (PPA) and its policy of prevention, reduction, recycling, and treatment or wastes (PPA Section 6602(b)) through measures that include process modification, materials substitution, and improvement of management (PPA Section 6607(b)(3)).

A goal of the DFP is to ensure that personnel on-site are knowledgeable about the information needed and the methods required to formulate the drilling fluids/chemical additive systems to minimize addition of toxic substances and meet the toxicity requirements of the Permit. The DFP must list the names and titles of the personnel responsible for implementing the DFP and a copy must be available on-site at the HDD or geotechnical facility at all times.

The permittee must develop and implement a written procedural plan for the formulation and control of drilling fluid/chemical additive systems for the drilling fluid system that will comply with the 500,000 ppm SPP threshold based on estimated or measured values. The DFP must specify drilling fluid type, provide a list including commercial product names, descriptions of the products, and the maximum proposed discharge concentrations for each product and chemical additive and the resulting worst-case cumulative discharge SPP. The DFP also requires clearly stated procedures for situations where additives not originally planned for or included in the toxicity estimations are proposed for use later, and whether any new additive may be used and discharged. The criteria for making changes to the additive make up of a drilling fluid system must be specified in the DFP. The DFP is to be submitted to Department 15 days prior to discharge.

10.3 Best Management Practices Toolkit

BMPs are measures that are intended to prevent or minimize the generation and potential for the release of pollutants from pipeline and ancillary facilities to the waters of the U.S. through normal operations. Pursuant to CWA Section 402(a)(1), development and implementation of BMP Plans may be included as a condition in APDES permits. CWA Section 402(a)(1) authorizes DEC to include miscellaneous requirements that are deemed necessary to carry out the provision of the CWA in permits on a case-by-case basis. BMPs are required to control or abate the discharge of pollutants in accordance with 18 AAC 83.475. There are three types of BMP Plans required by the Permit, one for short-term construction activities, one for long-term facility operations, and one for each of the following waste streams: Drilling Fluids and Drilling Cuttings (Discharge 001), Gravel Pit Dewatering (Discharge 003), Excavation Dewatering (Discharge 004), Hydrostatic Test Water (Discharge 005), Storm Water (Discharge 006), and Mobile Spill Response (Discharge 007).

DEC strongly encourages the owner/operator to implement BMPs for all activities, regardless of acreage.

10.3.1 BMP General Requirements

BMP Plans for construction activities shall be located at each location where a wastewater discharge will occur. BMP Plans for operation activities shall be located at the facility.

The Permittee must develop a BMP Plan which achieves the objectives and the specific requirements to prevent or minimize the generation and release of pollutants to the lands and waters of the U.S.

The Permittee must amend BMP Plans whenever there is a change in activities, facility, or facility operation that materially increases the generation of pollutants or their release, or potential release, to receiving waters. Changes to the BMP Plan shall be consistent with the objectives and specific requirements as described in Permit Section 3.4.2. Construction, Environmental, and Facility Managers that are responsible for implementing the BMP Plan must review all changes.

10.3.2 Standard BMP Toolkit Components

The BMP Plan must include, at a minimum, the following items:

- Statement of BMP Policy: The BMP Plan must include a statement of management commitment provide the necessary financial, staff, equipment, and training resources to develop and implement the BMP Plan on a continuing basis.
- The BMP Plan must establish a BMP Committee responsible for developing, implementing, and maintaining the BMP Plan. Specify the structure, functions, and procedures of the BMP Committee.
- Description of potential pollutant sources.
- Risk identification and assessment.
- Standard operating procedures to achieve the above objectives and specific best management practices.
- Reporting of BMP incidents. The reports must include a description of the circumstances leading to the incident, corrective action taken and recommended changes to prevent recurrence.
- Materials compatibility.
- Good housekeeping
- Inspections.
- Preventative maintenance and repair.
- Security.
- Employee training.
- Record keeping and reporting.
- Prior evaluation of any planned modifications to ensure that the requirements of the BMP Plan are considered as part of the modifications.
- Final constructed site plans, drawings, and maps.

10.3.3 BMP Toolkit Approach

DEC anticipates there are BMPs that may be applicable a broad range of similar situations for numerous discharges. Some of these BMPs may include use of chemicals, treatment systems, or treatment systems that may need approval prior to use. However, once approved these BMPs can be used without additional approvals so long as site-specific conditions are inconsistent. The following describes anticipated, typical situations where the toolkit approach can be applied. Other tools may be considered based on unanticipated situations.

- **Mixing Zones**

Mixing zones may be authorized for turbidity for drilling fluids and drilling cuttings, gravel pit dewatering, and excavation dewatering. In order to ensure compliance with the 500-foot mixing zone for turbidity, the Permittee shall prepare a BMP Plan that

discusses BMPs that will be implemented to help ensure compliance with water quality criteria at the boundary of the mixing zones.

- **Hydrocarbon Contamination**

Permittee must review the CSP Database to determine if contamination may be encountered within 1,500 feet of an excavation that requires dewatering authorization under the Permit. Excavation dewatering that occurs within 1500 feet of a contaminated site or within 1500 feet of a contaminated groundwater plume will require the permittee to implement additional BMPs to help ensure compliance with Permit limits for situations where contaminated water is encountered. Water contaminated with hydrocarbons may also be present in hydrostatic test water. The Permittee shall have BMPs that can be implemented for situations where hydrocarbon contamination is encountered.

- **Sedimentation, Erosion, and Thermokarsting Control**

All discharges and disposals should have BMPs for erosion and sediment control and prevention of thermokarsting, if applicable. BMP Plans should discuss how install energy dissipation devices at the point of discharge/disposal as well as controlling sediment accumulation that could adversely impact sensitive vegetation areas (i.e., less than 1/8 inch on tundra). The BMP Plan must describe methods that ensure vegetation, whether sensitive or not, is protected from adverse impacts from sediment accumulations associated with the discharge. Accordingly, the Permit emphasizes that sediment and erosion control BMPs be used broadly. For guidance, see: *Alaska Storm Water Guide*. <http://dec.alaska.gov/water/wnpspc/stormwater/Guidance.htm> and *Upland Erosion Control, Revegetation, and Maintenance Plan, May 2013*.

10.3.4 Specific BMPs

BMP Plans must meet the general requirement as listed in Section 10.3.1. However, DEC has determined that some waste stream discharges will require specific BMPs unique to those discharges. The discharges affected by additional specific BMPs include Drilling Fluids and Drilling Cuttings (Discharge 001), Gravel Pit Dewatering (Discharge 003), Excavation Dewatering (Discharge 004), and Hydrostatic Test Water (Discharge 005).

- **Drilling Fluids and Drilling Cuttings (Discharge 001)**

Drilling Fluids and Drilling Cuttings (Discharge 001) BMP Plans will be required for HDD. BMPs must be developed and implemented to control the amount of drilling fluids discharged to the receiving water in order to comply with the 500-foot mixing zone. The plan shall discuss the possible impacts, monitoring, and mitigation procedures associated with inadvertent fluid releases that may occur during the season that HDD activities are proposed. For example, if the HDD activity is during the winter, the BMP Plan must address compliance monitoring under ice in the event of an inadvertent release. The FERC Wetland & Waterbody Construction & Mitigation Procedures, May 2013, and the Inadvertent Release of Drilling Mud Plan as the BMP Plan may be used for additional guidance or adapted for use as the BMP Plan. Furthermore, at the discretion of the permittee the BMP Plan may be combined with the DFP so long as there is a clear distinction in the combined document that separates these two dissimilar plans required by the Permit.

- **Gravel Pit Dewatering (Discharge/Disposal 003)**

Gravel Pit Dewatering discharges conducted for the purpose of gravel extraction have specific BMP Plan requirements.. Gravel Pit Dewatering discharges to freshwater must be controlled using BMPs to prevent downstream sedimentation, erosion, or thermokarsts in the receiving water in addition to ensure compliance with Permit limits and applicable water quality criteria 500-foot mixing zone if authorized (See BMP Toolkits Section 10.3.3). If large volumes of water is discharged such that adverse sediment, erosion, or thermokarst issues are observed, or the permittee is unable to comply with a single 500-foot mixing zone, then multiple discharge locations may be requested in order to comply with the Permit. For guidance on BMPs for gravel pits, refer to *Alaska DEC's User Manual, Best Management Practices for Gravel/Rock Aggregate Extraction Projects* and *North Slope Gravel Pit Performance Guidelines*.

For disposal of gravel pit water to upland areas, the permittee must develop and implement BMPs for sediment, erosion, and thermokarst control and procedures to ensure the disposal does not exceed the capacity of the disposal location that lead to a discharge to waters of the U.S. If a discharge occurs, the Permittee must have APDES an APDES authorization.

- **Excavation Dewatering (Discharge/Disposal 004)**

Excavation Dewater discharges and disposals require the same specific BMPs as Gravel Pit Dewatering. BMPs must prevent sediment, erosion, and thermokarst issues and ensure compliance with Permit limits and water quality criteria at the boundary of the 500-foot mixing zone. Upland disposals must have BMPs for sediment, erosion, and thermokarst control and procedures to prevent discharges.

- **Hydrostatic Test Water (Discharge/Disposal 005)**

Permittees are required develop specific BMPs for sediment, erosion, and thermokarst control for both surface water discharges and upland disposals. The BMP Plan must also include BMPs hydrocarbon removal based on the observation of a sheen (See BMP Toolkit Section 10.3.4). This requirement is particularly important for authorizations that include limits for TAH and TAqH due to the likelihood of hydrocarbons being present in the discharge. Lastly, specific BMPs for using heated water to prevent freezing in the pipelines that ensure water quality criteria for temperature is met at the point of discharge.

- **Storm Water (Discharge 006)**

The permittees is required to identify and control pollutant sources associated with the construction of pipelines and ancillary facilities that disturb one acre or more. For specific requirements, refer to the following manuals for guidance: *Alaska Storm Water Guide*. <http://dec.alaska.gov/water/wnpspc/stormwater/Guidance.html>.

For erosion and sediment control, the following manuals may provide additional information: *Federal Energy Regulatory Commission (FERC) Upland Erosion Control, Revegetation, and Maintenance Plan (May 2013)*. If developed to meet the requirements specific for Alaska, the FERC plan may be accepted as equivalent to the SWPPP required by the Permit.

DEC recommends that BMPs be utilized for any construction activity (e.g., maintenance excavations), regardless of size and discharge volumes to prevent exceedance of water quality criteria or adverse sediment and erosion impacts.

- **Mobile Spill Response (Discharge 007)**

Permittees are required to develop specific BMPs for discharges. Per Section 10.3.4, treatment systems that remove free-phase and dissolved-phase hydrocarbons must have operation and maintenance procedures to ensure the treatment capacity of the system is maintained. The BMP must also address procedures to be implemented if an observation of a sheen occurs that can bring the discharge into compliance with the Permit.

10.4 Storm Water Pollution Prevention Plan Development and Implementation

Coverage for Storm Water (Discharge 006) requires that the applicant develop and implement a SWPPP, which assesses site specific conditions, sources of sediment and other pollutants, and establishes BMPs to prevent, or minimize to the extent practicable, pollutants from being discharged in storm water. The SWPPP must identify controls from the BMP Toolkit that will best suit the activities and meet pollution control objectives.

The SWPPP must be developed by a qualified person and submitted to the Department. The Department does not approve the SWPPP but requires a submittal to support the administrative record for obtaining coverage under the Permit. The SWPPP must be updated as necessary to reflect any revisions to the project or to applicable federal, state, tribal, or local requirements that affect the storm water controls implemented at the site. The ability to reference other programs in the SWPPP is intended to reduce confusion between overlapping and similar requirements, while still providing for both local and state regulatory coverage of the construction or facility site. The permittee is not required to submit subsequent revisions of the SWPPP but must submit certifications that the SWPPP has been modified. The current SWPPP must be maintained at the project site as described in Section 10.4.4. The permittee must provide a copy of the applicable portions of the SWPPP or site specific training to each subcontractor who engages in earthwork activities in a timely manner prior to commencing with an earthwork activity.

The Permit allows for the use of equivalent plans to meet the SWPPP requirements. A pipeline construction site and ancillary pipeline facilities may replace the SWPPP with an equivalent federal, state, tribe, or local storm water control plan if it's as stringent as the SWPPP requirements in the Permit and has been adapted for unique Alaskan requirements. For example, an amended version of the 2013 *FERC Upland Sediment and Erosion Control Plan* may be determined by the Department to be equivalent.

10.4.1 Roles and Responsibilities

10.4.1.1 Permittee Scenarios

The SWPPP must identify the permittee or co-permittee for the project and those functions that the permittee have operational control over. Operational control includes modifications to the design or specifications (typically the owner) for the project(s) or day-to-day control over construction activities (typically the contractor). For the Pipeline GP, the owner or general contractor (GC) can be the permittee or they could be co-permittees depending on construction contractual mechanisms and the responsibilities that affect implementation of the project and the implementation of the SWPPP. The SWPPP must clearly discuss the roles and responsibilities of the various parties to ensure compliance with the storm water requirements of the Permit.

GC as Sole Permittee. There are two potential construction scenarios that could lead to the GC being the sole permittee, conventional owner-engineer-contractor scenario and a design build scenario. In the design-build scenario, the owner hires a GC to design and build the pipeline and, as such, the GC has both operational control over the design and specifications as well as over the day-to-day activities. In the conventional scenario, the owner hires a single GC and the GC has operational control over the day-to-day activities and is the sole permittee. The GC is the sole permittee responsible for developing and implementing the SWPPP and modifying the SWPPP if modifications to the design and specifications affect the SWPPP. The owner maintains operational control over the design and specifications of the pipeline.

Owner as Sole Permittee. In this quasi-conventional scenario, the owner has operational control over construction plans and specifications and hires a GC that must comply with the project design and specifications as well as the owner-developed SWPPP that complies with the storm water requirements and other applicable conditions of the Permit. The project may be part of a large plan of development or small plan of development. The owner as permittee must notify the GC in a timely manner if changes in the project design and specifications trigger modifications to the SWPPP. The sole owner-permittee must also provide an onsite -qualified representative to interface effectively with the GC to ensure compliance with the SWPPP. The GC must manage subcontractors to comply with the SWPPP. The Pipeline GP does not allow subcontractors to develop implement a separate SWPPP for the project.

Owner and GC as Co-Permittees. This scenario considers a potential situation where a large plan of development is constructed by multiple GCs hired by the owner (e.g., four segments of a long pipeline). The owner retains operational control over the design and specifications of a large plan of development and the various GC's maintain day-to-day operational control over activities but each is a permittee. Hence, the owner is the permittee for the entire plan of development and is co-permittee with the GC. The GC is the permittee responsible for activities on their segment. For the Pipeline GP, the co-permittees must collaborate on a common SWPPP for the portion of the affected project or, possibly, adopt an equivalent sediment and erosion control plan for the entire plan of development that meets permit requirements (See Section 10.4.1). The SWPPP must clearly define the responsibilities of each co-permittee and the responsible parties that implement components of the SWPPP. If project design and specifications changes require modifications to the SWPPP, the owner must collaborate with the affected GC's on modifying the SWPPP.

Signature and Certification. The SWPPP must be signed and certified in accordance with the signatory requirements in the Standard Permit Conditions section of the Permit (Appendix A).

10.4.1.2 Preparers, Leads, Inspectors, and Treatment System Operators

Based on the specific Permittee scenario, the SWPPP must identify the key individuals, or teams, who are responsible for various aspects of developing and implementing the SWPPP. Each key field person identified must have access to the most current copy of the SWPPP as well as other documents or information that must be kept with the SWPPP. Typical key personnel that develop and implement SWPPPs include preparers, storm water leads, inspectors, and occasionally treatment system operators.

Preparers must have at a minimum an understanding of the Permit requirements and progressive training and experience commensurate with the size and complexity of the project to ensure the SWPPP can be readily implementable by the storm water lead without excessive field modifications. The storm water lead may be responsible for every activity related to storm water

at a small construction sites or oversee a team of people for large construction projects. For large construction projects, a team may be required and include inspectors and treatment system operators in addition to the preparer and lead. The storm water lead directs individuals and teams as well as schedules training based on relevant expertise needed for the construction storm water management activities.

The recommended experience and training for responsible parties involved with developing and implementing a SWPPP becomes incrementally more based on the size of the project. Once a project is 20 acres or greater, such as a large plan of development (LPD), the SWPPP Preparer should be an Alaskan Certified Erosion and Sediment Control Lead (AK-CECSL) and visit the site prior to writing the SWPPP or soon after the start of the project to revise the SWPPP based on site conditions. The recommended experience or training required for the preparer, lead, inspector, and treatment system operations based on project size are described in Table 13.

Table 12: Recommended Experience or Required Training for Specific Roles based on Project Size.

Storm Water Role	Total Project Disturbed Acreage		
	1 to < 5 acres	5 acres to <20 Acres	> 20 Acres (LPD)
Storm Water Lead	AK-CESCL training recommended.	AK-CECSL certification	
SWPPP Preparer	Familiarity with the Permit requirements.	SWPPP preparation course recommended.	AK-CECSL certification and site familiarity.
Storm Water Inspector	Familiarity with the Permit and SWPPP.	AK-CECSL certification	
Treatment System Operators	AK-CECSL certification and have general experience and knowledge of storm water control measures. Have operational experience with the specific treatment equipment used on-site.		

Note: The following training and certifications may substitute for AK-CESCL training and certification: CPESC, CESSWI, or CPSWQ by EnviroCert International, Inc. (ECI, <http://envirocertintl.org>) or CISEC by CISEC, Inc. (<http://cisecinc.org>).

10.4.2 SWPPP Contents

A SWPPP shall be developed in accordance with EPA Guidance document, *Developing Your Stormwater Pollution Prevention Plan – A Guide for Industrial Operators (February 2009, EPA 833-B-09-002)* or any subsequent revision of the guidance document. The Department has also developed the *Alaska Storm Water Guide (December 2011)*, to aid in the development of SWPPPs used in Alaska.

10.4.2.1 Site-specific Conditions

Typical site-specific conditions of the project include (1) the amount, frequency, duration, and seasonal occurrence of rainfall; (2) site conditions such as soils, topography, drainage patterns, and vegetation; and (3) receiving waters, such as impaired waters or waters listed in the ADF&G Anadromous Waters Catalog. This provision helps ensure the permittees understand the areas impacted by construction within their project and lead to properly selecting and designing control measures necessary to meet permit requirements

The SWPPP must also describe the nature of the construction activity, including, but not limited to:

- The function of the project (e.g., large spread winter construction);

- A general location map able to identify the location of the activity and the waters of the U. S. within one mile of the project;
- Site maps that clearly delineate the area that will be disturbed and important environmental features (e.g., wetlands, spawning areas, water intakes, etc.);
- Identification of all potential sources of pollutants that may reasonably affect the quality of storm water discharges from the construction site. This includes description of related industrial activities such as pipe coating facilities or temporary concrete batch plants;
- The intended significant activities, presented sequentially, that disturb soil over major portions of the site (e.g., grubbing, excavation, grading); and
- Estimates of the total area of the site that is expected to be disturbed by excavation, grading, or other activities including off-site borrow/fill areas. It may be preferable to separately describe portions of the site as they are disturbed at different stages of the construction process.

10.4.2.2 Control Measures

Based on site-specific information and identification of sources of pollution, the SWPPP must indicate and describe the control measures to be implemented including:

- The type of sediment and erosion control measure from the BMP Toolkit, location, duration (temporary or permanent), and construction sequence (specific dates are not necessary); and
- When available and appropriate, the manufacturer's specifications for installation and maintenance of the appropriate control measures.

10.4.2.3 Treatment Systems and Chemicals

Treatment system design using enhanced settling or filtration techniques requires consideration of appropriate, nontoxic chemicals and dosing rates; pH control, chemical mixing and flocculation that produces satisfactory floc; the type of physical removal process (i.e., sedimentation or filtration); the process flow (e.g., batch or continuous); and other concepts. Because there are numerous variations of possible treatment system and chemical use, DEC must review and approve the treatment system and/or the use of chemicals for sediment removal. The review is to ensure the proposed chemicals and dosing rates are appropriate, effective, as well as nontoxic. The combination of the treatment physical separation process is reviewed to help ensure the discharge will attain imposed effluent limits. Lastly, as a condition of approval DEC may require performance monitoring, operation and maintenance procedures (e.g., solids handling and disposal or equipment maintenance), and operator training or certification requirements. If appropriate (i.e., not dependent on site-specific conditions), the treatment system and/or chemical use may be approved for broad use as a BMP in the BMP Toolkit.

10.4.2.4 Good Housekeeping Procedures

The SWPPP must describe procedures that prevent the discharge of pollutants from earth moving activities and ancillary activities associated with the project. These procedures are generally associated with storage and handling of materials such as construction waste, fuels and solvents, and other potential storm water contaminants. Typically, good housekeeping procedures are developed for:

- Washing of Equipment and Vehicles and Wheel Wash-Down,
- Fueling and Maintenance Areas,

- Staging and Material Storage Areas,
- Washout of Applicators/Containers used for Paint, Concrete, and Other Materials,
- Fertilizer or Pesticide Use, and
- Storage, Handling, and Disposal of Construction Waste.

10.4.2.5 Spill Prevention and Response Procedures

In the event that good housekeeping procedures do not prevent a release, specific spill prevention and response procedures must be included in the SWPPP for material storage and handling including, but limited to:

- Labeling containers (e.g., “Used Oil,” “Spent Solvents,” “Fertilizers and Pesticides,” etc.)
- Exeditiously stopping, containing, and cleaning up spills, leaks, and
- Other contaminant releases.

Notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity.

10.4.2.6 Stabilization and Seasonal Shutdowns:

The SWPPP must also include a description of temporary and permanent stabilization practices for the site, including a schedule of when the practices will be implemented. Lastly, the SWPPP must document shutdown and startup activities for projects that are not completed during the winter or summer construction season. The SWPPP must document (1) the anticipated dates of fall freeze-up and spring thaw, (2) activities leading up to and at fall freeze-up, (3) activities leading up to and at spring thaw, and (4) activities to reestablish control measures prior to and immediately after spring thaw and fall freeze up.

10.4.3 SWPPP Implementation and Administrative Requirements

10.4.3.1 SWPPP Modifications. The permittee must update and include a revised SWPPP and site maps, within seven calendar days in response to any following triggering conditions:

- Changes to construction control measures, good housekeeping measures, or other activities that render the exiting SWPPP obsolete,
- Changes made in response to corrective actions, or maintenance procedures, or
- An inspection or investigation reveal changes are necessary to comply with the Permit.

The permittee must revise its SWPPP to reflect the new maintenance procedures and include documentation of the corrective action to return to full compliance. The permittee must maintain a log showing the dates of all SWPPP modifications, including name of the person authorizing each change and a brief summary.

10.4.4 SWPPP Documentation and Availability.

A notice of Permit authorization and SWPPP must be posted conspicuously near the main entrance of the site or at local public building such as the town hall or public library if posting at the entrance is infeasible. For linear projects, the notice must be posted at a publicly accessible location near the active part of the construction project (e.g., where a pipeline project crosses a public road). The Permit notice must include the following information:

- A copy of the completed Notice of Intent as submitted to DEC;
- Current contact person and phone number for scheduling times to view the SWPPP, and

- The current location of the SWPPP.

A copy of the SWPPP must be kept at the facility or the construction site from the date of project initiation to the date of final stabilization. A Permittee with day-to-day operational control over the plan's implementation must keep a copy of the plan readily available whenever on site (a centrally located construction trailer or truck accessible by all on-site personnel is sufficient). If an on-site location is unavailable to store the SWPPP when no personnel are present, notice of the plan's location must be posted at the main entrance sign at the construction site. Regardless, a copy of the SWPPP must be readily available for inspection during normal business hours.

Copies of the Pipeline GP, the signed and certified NOI submitted to DEC, authorization letter, and a log of SWPPP modifications must be included with the SWPPP. The Permit condition stresses the importance understanding interrelated permit requirements and responsibilities. In addition, the following documents must be kept with the SWPPP:

- Description, location, and sequence of earthwork activities, control measures, and stabilization measures;
- Date(s) when earthwork activities occur, construction activities, begin and temporarily or permanently cease, and when stabilization are initiated on a portion of the site;
- Documentation of maintenance and repairs of control measures, including date(s) of regular maintenance, date(s) of discovery of areas in need of repair/maintenance, and date(s) that the control measure(s) returned to full function;
- Manufacture Information (i.e. Material Safety Data Sheet, manufacturer and/or supplier test results, or installation instructions);
- Description of any corrective action taken, including the event that caused the need for corrective action and dates when problems were discovered and modifications occurred;
- Records of employee training, including the date(s) training was received; and
- Copies of inspection reports, non-compliance, certifications, monitoring reports, or end of construction season reports.

A Permittee must make a copy of the SWPPP and documentation available to DEC upon request, for review or copying, during any on-site inspection per 18 AAC 83.405. Electronic storage of documents can be used so long as they are accessible when a DEC inspector conducts an onsite inspection. The SWPPP must identify any alternative off-site location for available access if there is a seasonal shut down for a multi-season project. The SWPPP must be returned to the site once the shutdown is over.

The Permittee must provide a copy of the SWPPP to each subcontractor on-site. If a member of the public requests a copy of the SWPPP, they must first contact DEC. DEC may require that the most current version be sent to DEC so that any confidential business information claimed can be vetted before being provided to the public per 18 AAC 83.165. The format (e.g., electronic or hard copy) used to provide DEC with the most current version of the SWPPP is at the discretion of the permittee.

10.4.5 Inspections and Monitoring

Monitoring storm water discharges by conducting analytical samples is not required under the Permit due to the limitations in coverage per Section 5.3.1.1 (e.g., discharges to impaired or Tier III waters and no triggering conditions). Storm water compliance under the Pipeline GP relies on visual observations of storm water discharges.

Visual monitoring must be performed by a qualified person, either personnel employed by the permittee or a third-party hired by the Permittee. The qualified person must be knowledgeable and possess the skills to assess conditions at the construction site that could impact storm water quality and the effectiveness of sedimentation and erosion control measures used to maintain water quality objectives.

10.4.5.1 Construction Storm Water Inspections, Corrective Actions, and Reports

Consistent with the CGP, the Permit requires the permittee to document in the SWPPP the procedures that will be followed for conducting site inspections and, where necessary, taking corrective actions. The following are the minimum documentation requirements for inspection to be included in SWPPPs:

- Person(s) or positions responsible for conducting site inspections (See Section 10.4.1.2);
- Inspections schedules, frequency and timing;
- Checklists or forms to be used; and
- When and how corrective actions will be triggered and addressed.

Inspections: The Permittee must inspect designated areas on a schedule, frequency, and timing based on the mean annual precipitation (MAP) for location per Table 14:

Table 13: Inspection Schedules

MAP (inches)	Period (Days)	Frequency/Timing
≤ 40	14	Once within period and 24 hours after storm or snowmelt event
> 40	7	Once per period but twice per period if there is precipitation each of the seven days ¹
Note ¹ : Pre-storm walk-throughs count as one inspection.		

For linear construction projects (e.g., pipeline construction) inspections may be performed and applied to other representative locations and controls. The qualified personnel may inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the areas above and below that point. The conditions of the controls along each inspected 0.25-mile segment may be considered as representative of the condition of controls along that reach extending from the end of the 0.25-mile segment to either the end of the next 0.25-mile inspected segment or to the end of the project, whichever occurs first. This allowance provides flexibility for inspections for LPDs and may limit additional disturbance to soils that may increase the erosion potential resulting from vehicles compromising stabilized areas.

Corrective Actions: The permittee must review and revise the selection, redesign, reinstall, and implement other corrective actions to control measures when the following conditions have been discovered or reported by other entities and substantiated:

- Spills or unauthorized discharges;
- Control measures not designed, installed, or maintained correctly;
- Control measures are observed to not meet permit requirements or water quality criteria; or
- Sediment or residues (See Definitions) have accumulated at locations that could lead to impacts to control measures, storm water conveyance infrastructure (e.g., storm water inlets and outlets), or equipment tracking on roads or paved areas.

Whenever corrective actions impact other parties, the permittee must notify them within three days. For conditions that can be readily corrected (e.g., removing tracked sediment on roadways), the permittee must take corrective actions as soon as practicable within 24 hours of discovery. For revising selection, redesigning, or repairing control measures, the permittee must complete the corrective action within seven days. If the corrective action has a nexus with other similar control measures or conditions on the project, the permittee must make corrections to subsequently affective controls or conditions prior to the next storm or snowmelt event, or as soon as practicable afterwards. Normally schedule inspections must continue from the time the need for corrective actions have been identified until completed. Lastly, the permittee must maintain a log of corrective actions that includes the date the problem was discovered or reported, the corrective action(s) taken or the basis for why one was not taken, the date the corrective action was completed, and whether the corrective action resulted in a revision to the SWPPP.

Inspection Reports: The Permittee is required to retain with the SWPPP a record of each inspection for at least three years from the date that permit coverage expires or is terminated. The report must also identify any actions taken per the inspection requirements and identify any triggering conditions that requires corrective action (Also See Section 10.4.5.1).

10.4.6 SWPPPs for Operation Facilities

Most permit requirements for SWPPPs for operating facilities are similar to SWPPPs for construction activities. Operation SWPPPs are dissimilar to construction SWPPPs in the following areas:

- Operation SWPPPs focus primarily on control of pollutant source that are uniquely associated with facility operations and a lesser emphasis on sediment and erosion control;
- Due to the stationary, long-term nature of operating facilities, operation SWPPPs tend to be static and do not change substantially overtime and changes tend to be related to changes in operation that introduce new pollutant sources or allowable non-storm water discharges;
- Because the need to modify SWPPPs is infrequent, the Permit requires annual review of the SWPPPs to ensure minor changes or modifications to controls are adopted and certification the review and revision has been conducted;
- Semi-annual storm water inspections of the facility are required with one conducted prior to breakup to assess whether there are any areas which may contribute pollutants to the storm water discharge and the second inspection conducted after the breakup;
- Semi-annual inspections must be retained for three years and reported to the Department annually with the SWPPP certification; and
- While operation SWPPPs are developed to address facility specific control measures, the permittee may develop a holistic SWPPP for multiple similar facilities so long as the SWPPP has adequate facility specific details (e.g., site maps, snow storage areas, etc.), implementation of the SWPPP is not impracticable due to distance separating the facilities, and any revisions to the holistic SWPPP are distributed to each site in a timely manner.

10.5 Quality Assurance Project Plan

The Permittee is required to develop a QAPP for all authorized discharges and submit certification that a QAPP has been developed to DEC with the initial NOI/NOD for first time applicants. The QAPP includes procedures to ensure that the monitoring data submitted are

accurate and to explain data anomalies if they occur. The QAPP must outline standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples; laboratory analysis; and data reporting. Specific requirements for a QAPP under the Permit includes procedures to conduct composite sampling for large hydrostatic test water discharges and methods of calculation the 90th percentile of FC bacteria samples to comply with the MDL.

The QAPP shall be retained at each facility The Permittee must update the QAPP as necessary and make a current copy available to DEC upon request.

10.6 Notice of Intent Procedures and Management of Authorizations

An applicant seeking coverage to discharge under the Permit must submit an NOI to DEC per 18 AAC 83.210(b). For disposals, an applicant must submit an NOD per AS 46.03.100(d) and 18 AAC 72. As stated previously, the Permit is a hybrid of developed by the Department under the authority of WDAP representing both 18 AAC 83 and 18 AAC 72. Rather than developing separate forms for an NOI and an NOD, the forms are also hybrid. The form allows distinction between whether request is for a discharge (i.e., NOI) or for a disposal (i.e., NOD). As discussed previously, the applicable disposal activities for which an authorization may be requested exclude the waste categories Drilling Fluids and Drill Cuttings, and Storm Water. The applicable discharge activities include all categories described in the Permit. However, only the discharge categories Drilling Fluids and Drill Cuttings, Gravel Pit Dewatering, and Excavation Dewatering are applicable for obtaining mixing zone authorizations. The NOI/NOD forms provided in Permit Attachment 1 may be used to obtain authorization to Discharge/Dispose wastewater under the Permit, respectively.

The NOI requirements differ based on construction and maintenance activities or operation activities. The following information will be required for each NOI/NOD:

1. Certification: Applicant information. The NOI/NOD must be signed and certified per 18 AAC 83.385.
2. Permit Information (NOI/NOD Section 1): The NOI/NOD requires the applicant must specify whether the application is for a new authorization, revision to an existing authorization, or an NOI/NOD to request administrative extension prior to expiration of the Permit.
3. Pipeline Information (NOI/NOD Section 2): The applicant must identify if the authorization is for pipeline construction or operation and maintenance activities and provide starting and ending milepost designations and corresponding latitudes and longitudes for the authorization.
4. Applicant information (NOI/NOD Sections 3 through 6): The applicant must provide the owner's or Permittee's name, mailing address, contact name, and telephone number of the responsible party, an on-site contact, billing contact, and an authorized person to negotiate fees per 18 AAC 72.959. Note that Co-permittee scenarios only apply to storm water coverage for construction (NOI/NOD Section 8: Discharge 006 – Storm Water/ Construction).
5. Discharge/Disposal Summary (NOI/NOD Section 7): Because the NOI/NOD may encompass many different discharges and disposal (e.g., large plan of development scenario), the applicant must provide a summary of all requested discharges, including mixing zones, and disposals that must match the individual attachments in Section 8 – Outfall Details and NOI Section 9 – Mixing Zone Requests.
6. Discharges. The permit requires the applicant to identify the types of discharges.

7. Detailed Discharge/Disposal Information: Each discharge or disposal requested must be supported with information necessary for authorization. This information includes, but may not be limited to, vicinity maps, detailed site plans, latitude and longitude coordinates, waterbody names and descriptions, and other information associated specifically for the individual discharge or disposal being requested. The specific information may include a mixing zone request
8. Location of discharge. The NOI/NOD requires the applicant to provide accurate descriptions for location of operations and discharges.
9. Vicinity Maps and Site Plans Map: The NOI/NOD requires the application to submit a vicinity map of proposed location of operations and discharges.
10. Commencement date of discharge. The permit requires the applicant must to provide a vicinity map that shows the general area of coverage for the requested discharge or disposal. The sites the initial date and expected duration of operations.
11. BMP Plan: A BMP Plan must be prepared and submitted with the first NOI/NOD. A BMP Plan certification statement must provide sufficient detail for DEC to have an understanding of the activity, discharge location be submitted by the Permittee with NOI/NODs in subsequent years of operation.
12. Miscellaneous Reports. The NOI/NOD may require copies of plans, surveys, and environmental mapping components. Each discharge reports as required by other state and federal agencies.
 - a. Plan Approval for first time applicants. 18 AAC 72.050 requires the applicant to demonstrate to the Department that a domestic wastewater discharge meets minimum treatment standards prior to discharging to water of the U.S. Plan approval is required before constructing, installing, or modifying any part of a domestic wastewater collection, treatment, or disposal system per 18 AAC 72.200. In addition, a Permittee that constructs, alters, installs, modifies, or operates a non-domestic wastewater treatment works or disposal may require unique requirements per Section 8 Attachments.
 - b. Supporting Plans: The applicant must provide various plans necessary to support authorization of discharges and disposals. These plans include, but may not be limited to, DFPs, BMP Plans, SWPPPs, and related plans from other agencies that support the NOI, but is not required.
 - c. Previous plan approvals or new plan submittals to comply with 18 AAC 72: Domestic wastewater discharges may require plan submittals or previous DEC approvals to get authorization under the Permit. In addition, certain nondomestic treatment process or systems may require plans submittals prior to adopting into the BMP Toolkit. Applicants must submit according to the most recent version of 18 AAC 72 at the time they submit an NOI.
13. Mixing Zones for Discharges: If the applicant is requesting a 500-foot mixing zone for turbidity and residues for drilling fluids and drill cuttings (001), gravel pit dewatering (002), or excavation dewatering (003) the applicant must complete a mixing zone form for each discharge. In order to approve the request, the applicant must provide stream flow information and environmental mapping information to DEC. The applicant may be required to consult with DF&G if habitat concerns arise.

10.6.1 Deadlines for Submitting NOI/NOD

A new applicant must submit an NOI/NOD to DEC 90 days prior to discharge for the first year of operation. The 90-day notice will allow for adequate time for DEC to review the NOI/NOD

and plan approvals. NOI/NODs for revisions or renewals in subsequent years of operation must be submitted 45 day prior to discharge. If a discharge is needed for emergency maintenance repairs, DEC will expedite the authorization but cannot waive the NOI requirement. However, if the emergency requires a disposal, DEC may waive the 500,000 gpd threshold for automatic authorization that would otherwise require submitting a NOD.

10.6.2 Date of Authorized Discharge

Per 18 AAC 83.210(f) a general permit must specify the date(s) when it authorized a Permittee to begin discharging. Commencement of discharges from an activity may occur any time after issuance date of a written authorization from DEC. The written authorization will assign the activity an APDES general authorization number for the site(s) specified on the NOI.

10.6.3 Revisions to Authorizations and Termination of Outfalls

DEC anticipates that authorizations will require revisions during the term of the Permit. These revisions will most likely be need to terminate discharge/disposal outfalls that are no longer needed so to eliminate the need for ongoing reporting when there is no discharge or disposal. DEC has modified the standard Notice of Termination (NOT) Form to include the ability terminate individual discharge/disposal outfalls without terminating the entire authorization. The NOT also allows for termination of the authorization (all outfalls) if applicable and appropriate. When issuing revised authorization approval notices, DEC will list the terminated outfalls and authorization any new outfalls added. Accordingly, DEC requests applicants submit notice of terminations and revised NOI/NODs simultaneously when possible.

10.6.4 Renewal of Authorizations Prior to Permit Expiration

The Permit will expire five years from the effective date of the Permit. Based on a comparison between regulatory requirements for APDES and State issued general permits, permittees that desire to have administratively extended coverage beyond the expiration date of the Permit must submit an NOI/NOD for renewal no later than 30 days prior to Permit expiration.

Because Statewide Pipeline GP is a hybrid general permit, DEC compared the requirements for extended coverage to derive an appropriate submittal deadline. Per 18 AAC 83.155(c)(1), conditions of an expired APDES permit continues in for until the effective date of a reissued (renewed) permit if the permittee has submitted a complete and timely NOI per 18 AAC 83.110. Per 18 AAC 110(a), any person required to obtain coverage under a general permit must submit an NOI per 18 AAC 83.210(b). 18 AAC 83.210(b) states that a timely submittal of an NOI in compliance with the Permit fulfills the discharger's duty to apply and 18 AAC 83.210(e) and (f) indicates the Permit must specify the deadline for submitting a complete and timeline NOI.

Per 18 AAC 15.110(a), for general permits issued under authority of AS 46.03.100 and 18 AAC 72.900 the conditions of the Permit continue to be fully effective and enforceable until the effective date of the renewed permit if a timely application has been submitted per 18 AAC 15.100(d). 18 AAC 15.100(d) states an application for renewal must be received 30 days prior to expiration. Based on this comparison of regulatory requirements for a hybrid permit, 30 days appears to be appropriate.

10.7 Transfers

Per 18 AAC 83.150, allows permit coverage for a facility to be transferred from an existing owner to a new owner. The permit authorizes a transfer only from an existing location designated in the original NOI. Discharge authorizations for a particular facility may not be transferred to

another facility at the same site, nor will the transfer apply to the same facility at a new location. In these situations, the new applicant would have to apply for coverage under the Permit.

10.8 Notice of Termination of Authorizations

DEC may terminate coverage under an APDES permit for the reasons described in 18 AAC 83.140 using the procedures provided in 18 AAC 83.130. If a permittee desires to terminate coverage, the Permit requires the permittee to provide a NOT to DEC within 30 days following cessation of the discharges. The permittee must fulfill all permit requirements, provide adequate reasons for termination, and certify that there are no pending state, federal, or third-party suits to the best of their knowledge. The notice may include any final reports required by the Permit.

As a matter of managing revisions to existing authorizations (e.g., large plan of pipeline development), the applicant can request to terminate individual outfalls without terminating the existing authorization. The same requirements are apply as described previously.

11.0 RECORDING AND REPORTING REQUIREMENTS

11.1 APDES Reporting Requirements

11.1.1 APDES Reporting Authority

Per 18 AAC 83.455(b), the Department may establish requirements for reporting of monitoring results, including the frequency, on a case-by-case basis depending on the nature and effective of the discharge. The minimum frequency is annual reporting. Currently, DEC is transitioning to an electronic reporting (e-reporting) system in accordance with 40 CFR § 127 that will be in effect during the term of the Permit. The implications of this transition are not fully known, Therefore, DEC proposes to implement a phased approach that will hopefully minimize unforeseen consequence and ultimately result in efficient and effective reporting requirements established by the end of the Permit term.

11.1.2 APDES Electronic Reporting Transition

Upon implementation of the e-reporting system, the Permittee will be responsible for electronically submitting DMRs and other reports in accordance with 40 CFR § 127. Reports submitted in compliance with the E-Reporting Rule will not be required to submit hard copies unless requested by the Department. The start dates for e-reporting are provided in 40 CFR § 127.16. DEC has established a website at <http://dec.alaska.gov/water/Compliance/EReportingRule.htm> which contains general information about this new reporting format. As DEC implements the E-Reporting Rule, more information will be posted on this webpage. Training modules and webinar's for NetDMR can be found at <https://netdmr.zendesk.com/home>. The permittee will be notified by DEC in the future about how to implement the conditions in 40 CFR §127.

Prior to being notified by DEC, permittees must continue to sign and certify DMRs and all other reports in accordance with the requirements of Appendix A, Part 1.12, Signatory Requirements and Penalties. Permittees may submit electronically via email to DEC-WQReporting@alaska.gov. All signed and certified legible original documents and reports must be submitted to the Department at the Compliance and Enforcement Program address in Appendix A, Part 1.1.2. Permittees should indicate in their email submittal if an original hard copy is also being sent to the mailing address.

11.1.3 Discharge Monitoring Reports

During the Permit term, DEC anticipates there will be an adjustment period for permittees required to submit DMRs under the E-Reporting Rule. DEC will use a tiered approach to DMR reporting frequency. Monitoring results for discharge authorizations (002 – 005 and 007) shall be summarized and recorded each month on a DMR, or approved equivalent form, and submitted by the 28th of the following month. During the Permit cycle, DEC will assess the performance of permittees to consistently report DMRs for all authorizations under the Permit and the ability of NetDMR to batch-process multiple months of DMRs. Based on the abilities of NetDMR and reporting consistency by permittees using NetDMR, DEC will modify the DMR submittal frequency from monthly to semi-annually, if appropriate. Semi-annual reporting is believed to be appropriate based on seasonal maintenance and construction activities associated with pipelines. DEC proposes semi-annual submittal deadlines of January 31st and June 30th. Such modification would be conducted as a minor modification to the Permit per 18 AAC 83.145(a)(6).

11.1.4 End of Drilling Reports

In addition to submitting monthly DMRs, the permittee must submit an end of drilling report that provides a summary of the implementation of the drilling fluids plan, actions taken during the drilling program to reduce or eliminate the loss of drilling fluids, summary of communications between DEC and other agencies having jurisdiction over the potential impacts of the discharge and any mitigations measures required to protect habitat, water quality, and uses of the waterbody. The End of Drilling Report is submitted at least annually per Section 11.1.5.

11.1.5 APDES Annual Reports

Annual report submittals must include annual certification of the BMP Toolkit and the QAPP and be submitted by January 31st of the following year. Permittees with an authorization for Storm Water (Discharge 006) must also include an annual SWPPP certification and semi-annual storm water inspection reports. Currently, annual reports are submitted electronically via email to DEC-WQReporting@alaska.gov or by mail. If submitting both via email and mail, the permittee should note this in the email. If annual reports can be submitted via e-reporting in the future, DEC will notify the permittee with instructions.

11.2 18 AAC 72 Reporting Requirements

11.2.1 Reporting Authority

Reporting for land disposals applies only to gravel pit (003) and excavation dewatering (004) and hydrostatic test water (007). Per 18 AAC 72.930, the Department may determine reporting requirements for domestic and nondomestic wastewater treatment works and disposal systems that is necessary to adequately protect private and public drinking water systems, public health, and the environment. Based on the anticipated volumes and characteristics of the nondomestic wastewater and the limitations imposed by the Permit, DEC requires annual reporting of volumes disposed for each disposal location. Note that the annual reporting requirement includes those automatically authorized disposals (less than 500,000 gpd). For this reason, the permittee must submit location maps for all disposal areas, whether automatically authorized or not, that clearly shows where the disposal occurred in the annual reports. In addition, the permittee must summarize any noncompliance (Emergency Notices per 18 AAC 72.940) that occurred during the reporting period. Note that reporting disposals are not applicable to e-reporting. Therefore, the permittee must submit annual reports for disposals separately from APDES reporting.

However, permittee use the same email and mailing address as provided in Appendix A, Part 1.1.2.

12.0 OTHER LEGAL REQUIREMENTS

12.1 Endangered Species Act

The Endangered Species Act (ESA) requires federal agencies to consult with the FWS to ensure that any action they authorize is not likely to jeopardize the continued existence and recovery of any species listed as threatened or endangered or result in the destruction or adverse modification of critical habitat. DEC, as a state agency, voluntarily contacts this federal agency to obtain listings of endangered species and critical habitat.

The Department reviews the listing periodically for updates. Species of concern that inhabit or that have inhabited these waters at least at one time and that are listed as either threatened or endangered as of April 2012 is listed at the bullet below.

An endangered species is defined as a species that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as a species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

The following threatened and endangered species of wildlife and one plant that occur or that are believed to occur in Alaska and is potentially affected by discharges from the proposed discharge categories in this general permit.

- Polar Bear (*Ursus maritimus*): Threatened; Wherever found
- Wood Bison (*Bison bison athabascue*): Threatened; Wherever found
- Eskimo Curlew (*Numenius borealis*): Endangered; Wherever found
- Northern Sea Otter (*Enhydra lutris kenyoni*): Threatened; Kenai Peninsula; Aleutians; Kodiak Island
- Spectacled Eider (*Somateria fishceri*): Threatened; Wherever found
- Steller's Eider (*Polysticta stelleri*): Threatened; Wherever Found
- Short-tailed albatross (*Phoebastria(=Diomedea) albatrus*): Endangered; Wherever found
- Aleutian Shield Fern (*Polystichum aleuticum*): Endangered; Wherever found

12.2 Essential Fish Habitat (EFH)

Essential fish habitat (EFH) includes the waters and substrate (sediments, etc.) necessary for fish from commercially-fished species to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Management and Conservation Act (January 21, 1999) set forth a number of new mandates for the National Marine Fisheries Service regional fishery management councils, and other federal agencies to identify and protect important anadromous fish habitat. DEC, as a state agency, voluntarily contacts these federal agencies to obtain EFH designations.

The EFH regulations define an adverse effect as any impact which reduces the quality and/or quantity of EFH and may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

The Statewide Pipeline GP does not include areas involving marine EFH areas, therefore no consideration is given in the Permit.

12.3 Refuges, Critical Habitat Areas, Sanctuaries, and State Ranges

Areas containing anadromous waters, fish crossings, indigenous fish, mammals, and birds in the State of Alaska that might be adversely affected by projects associated with this GP are too numerous to be listed here, but can be accessed via ADF&Gs website at:

<http://www.adfg.alaska.gov/index.cfm?adfg=conservationareas.locator>

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ATTACHMENT A: MIXING ZONE ANALYSIS CHECKLIST

Mixing Zone Authorization Checklist based on Alaska Water Quality Standards (2003)

The purpose of the Mixing Zone Checklist is to guide the permit writer through the mixing zone regulatory requirements to determine if all the mixing zone criteria at 18 AAC 70.240 through 18 AAC 70.270 are satisfied, as well as provide justification to authorize a mixing zone in an APDES permit. In order to authorize a mixing zone, all criteria must be met. The permit writer must document all conclusions in the Permit Fact Sheet, however, if the permit writer determines that one criterion cannot be met, then a mixing zone is prohibited, and the permit writer need not include in the Fact Sheet the conclusions for when other criteria were met.

Criteria	Description	Answer & Resources	Regulation
Size	<p>Is the mixing zone as small as practicable? - Permit writer conducts analysis and documents analysis in Fact Sheet at: ► Section 7.2 Mixing Zone Analysis -.</p>	<p>Yes, mixing zone as small as practicable. Technical Support Document for Water Quality Based Toxics Control • Fact Sheet 7.2.1 • DEC's RPA Guidance • EPA Permit Writers' Manual</p>	<p>18 AAC 70.240 (a)(2) 18 AAC 70.245 (b)(1) - (b)(7) 18 AAC 70.255(e) (3) 18 AAC 70.255 (d)</p>

Criteria	Description	Answer & Resources	Regulation
Technology	Were the most effective technological and economical methods used to disperse, treat, remove, and reduce pollutants? If yes , describe methods used in Fact Sheet at Section 7.2 Mixing Zone Analysis.	Answer: Yes Fact Sheet, Section 7.2.2	18 AAC 70.240 (a)(3)
Low Flow Design	For river, streams, and other flowing fresh waters. - Determine low flow calculations or documentation for the applicable parameters. Justify in Fact Sheet	Fact Sheet 7.2 Mixing Zone Application and Review Process	18 AAC 70.255(f)
Existing use	Does the mixing zone...		
	(1) partially or completely eliminate an existing use of the water body outside the mixing zone? If yes, mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.3	18 AAC 70.245(a)(1)
	(2) impair overall biological integrity of the water body? If yes, mixing zone prohibited.	Answer: No Fact Sheet Sections 7.2.1 and 7.2.3	18 AAC 70.245(a)(2)
	(3) provide for adequate flushing of the water body to ensure full protection of uses of the water body outside the proposed mixing zone? If no, then mixing zone prohibited.	Answer: Yes Fact Sheet Section 7.2.3	18 AAC 70.250(a)(3)
	(4) cause an environmental effect or damage to the ecosystem that the department considers to be so adverse that a mixing zone is not appropriate? If yes, then mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.7	18 AAC 70.250(a)(4)

Criteria	Description	Answer & Resources	Regulation
Human consumption	Does the mixing zone...		
	(1) produce objectionable color, taste, or odor in aquatic resources harvested for human consumption? If yes, mixing zone may be reduced in size or prohibited.	Answer: No Fact Sheet Section 7.2.4	18 AAC 70.250(b)(2)
	(2) preclude or limit established processing activities of commercial, sport, personal use, or subsistence shellfish harvesting? If yes, mixing zone may be reduced in size or prohibited.	Answer: No Fact Sheet Section 7.2.4	18 AAC 70.250(b)(3)
Spawning Areas	Does the mixing zone...		
	(1) discharge in a spawning area for anadromous fish or Arctic grayling, northern pike, rainbow trout, lake trout, brook trout, cutthroat trout, whitefish, sheefish, Arctic char (Dolly Varden), burbot, and landlocked coho, king, and sockeye salmon? If yes, mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.5	18 AAC 70.255 (h)
Human Health	Does the mixing zone...		
	(1) contain bioaccumulating, bioconcentrating, or persistent chemical above natural or significantly adverse levels? If yes, mixing zone prohibited.	Answer: No Fact Sheet Sections 7.2.6 and 7.2.1	18 AAC 70.250 (a)(1)
	(2) contain chemicals expected to cause carcinogenic, mutagenic, tetragenic, or otherwise harmful effects to human health? If yes, mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.1	

Criteria	Description	Answer & Resources	Regulation
	(3) Create a public health hazard through encroachment on water supply or through contact recreation? If yes, mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.6	18 AAC 70.250(a)(1)(C)
	(4) meet human health and aquatic life quality criteria at the boundary of the mixing zone? If no, mixing zone prohibited.	Answer: Yes Fact Sheet Section 7.2.1, 7.2.6, and 7.2.7	18 AAC 70.255 (b).(c)
	(5) occur in a location where the department determines that a public health hazard reasonably could be expected? If yes, mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.6	18 AAC 70.255(e)(3)(B)
Aquatic Life	Does the mixing zone...		
	(1) create a significant adverse effect to anadromous, resident, or shellfish spawning or rearing? If yes, mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.5	
	(2) form a barrier to migratory species? If yes, mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.5	18 AAC 70.250(a)(2)(A-C)
	(3) fail to provide a zone of passage? If yes, mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.5	
	(4) result in undesirable or nuisance aquatic life? If yes, mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.7	18 AAC 70.250(b)(1)
	(5) result in permanent or irreparable displacement of indigenous organisms? If yes, mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.7	18 AAC 70.255(g)(1)
	(6) result in a reduction in fish or shellfish population levels? If yes, mixing zone prohibited.	Answer: No Fact Sheet Section 7.2.7	18 AAC 70.255(g)(2)

Criteria	Description	Answer & Resources	Regulation
	<p>(7) prevent lethality to passing organisms by reducing the size of the acute zone? If yes, mixing zone prohibited.</p>	<p>Answer: No Fact Sheet Sections 7.2.2 and 7.2.7</p>	<p>18 AAC 70.255(b)(1)</p>
	<p>(8) cause a toxic effect in the water column, sediments, or biota outside the boundaries of the mixing zone? If yes, mixing zone prohibited.</p>	<p>Answer: No Fact Sheet Section 7.2.7</p>	<p>18 AAC 70.255(b)(2)</p>
<p>Endangered Species</p>	<p>Are there threatened or endangered species (T/E spp) at the location of the mixing zone? If yes, are there likely to be adverse effects to T/E spp based on comments received from USFWS or NOAA. If yes, will conservation measures be included in the permit to avoid adverse effects? If yes, explain conservation measures in Fact Sheet. If no, mixing zone prohibited.</p>	<p>Answer: Yes Fact Sheet Section 7.2.8 and Fact Sheet Section 12</p>	<p>Program Description, 6.4.1 #5 18 AAC 70.250(a)(2)(D)</p>